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The development of the concept and set of practical measures of anti-crisis logistics management in the current Ukraine conditions

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THE DEVELOPMENT OF THE CONCEPT AND SET OF PRACTICAL MEASURES OF ANTI-CRISIS LOGISTICS MANAGEMENT IN THE CURRENT UKRAINE CONDITIONS / Розробка концепції та комплексу практичних заходів антикризового логістичного менеджменту в сучасних вітчизняних умовах

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АНОТАЦІЯ

В статті, на основі комплексного ретроспективного системного аналізу причинно-наслідкових чинників розвитку логістичного менеджменту в Україні, та на базі системного аналізу особливостей поточних системних кризових явищ - реалізована аналітична розробка методологічного забезпечення комплексного антикризового логістичного менеджменту. Який, зокрема включає в себе: розробку нової антикризової логістичної стратегії для конкретного підприємства, системний контроль логістичної діяльності, адаптивне управління її ризиками, зміну політики аутсорсингу логістичних сервісів, оптимізації та координації мультимодальних транзитних перевезень, забезпечення комплексної логістичної безпеки підприємства, використання нових підходів до моделювання та удосконалення інформаційних технологій для підвищення стабільності в логістичному управлінні в умовах макроекономічної ітеративної системної кризи.

Ключові слова: ЛОГІСТИКА, МЕНЕДЖМЕНТ, КРИЗОВІ ЯВИЩА, ЛОГІСТИЧНА ІНФОРМАЦІЙНА СИСТЕМА.

JEL CLASSIFICATION: R10

ABSTRACT

In the article, based on the complex retrospective analysis of systemic causal and consequences factors in the development of logistics management in Ukraine, and on the basis of a systematic analysis of the features of the current system crisis phenomena – is implemented analytical development of methodological support for comprehensive anti-crisis logistics management.

KEY WORDS: LOGISTICS, MANAGEMENT, CRISIS PHENOMENA, LOGISTICS INFORMATION SYSTEM.

1. SETTING OF THE PROBLEM AND THE RELEVANCE OF THE RESEARCH

The modern world economy, characterized by such processes as globalization of markets, the internationalization of enterprises, the rapid development of innovative information technologies and models, the rapid spread of the crisis phenomena between cooperating economies, increasing of the global demand to total energy efficiency of the business – places high demands on management (Popov, 2009: 2-5). However, to ensure stability not so much in the context of global market competition as especially in terms of microeconomic and macroeconomic crisis phenomena, the enterprises must have the ability to quickly and effectively adaptation to changes, i.e. must be adaptive (Nazaruk, 2013: 1-3).

The current situation in Ukraine clearly can be characterized as a crisis, because since 2009 in the economy at first there has been a decline in production and sales, and later, in 2011-2012, began a period of stagnation of production, and in the years 2013-2016 developed systemic political paramilitary economic crisis (Hrashchenko I., Khmurova V., Krasniuk S., 2016: 81-104). That is why crisis management (including logistics activities), must provide for adequate and systematic multi-modal response to the foregoing crisis phenomena, that is, the type and strength of the crisis factor requires more or less “forces” of reaction, which finds expression in a different ranges of sizes and vectors of cost (monetary, time, human, information resources), and hence in the corresponding manager influences.

Taking into account the above, the main objective of this study is to research and develop the concept of crisis logistic management in the context of modern non-systemic crisis phenomena in Ukraine, as the classical theory of crisis management provides the possibility of forecasting and preparing only for predicted systemic crisis.

And the achievement of the main goal of the study will be through solving the following problems and studying the following components of the future concept:

- research and analysis of historical causal stages of the development of logistic management in Ukraine;
- system analysis of features of current systemic crisis phenomena;
- analysis and adaptation of applied measures of complex crisis management logistics management (including development of a new crisis management

strategy taking into account the specific logistics enterprise specifics, system control of logistics activities, adaptive management of its risks, change of outsourcing policy of logistics services, optimization and coordination of multimodal transit transportation, providing integrated logistics enterprise security, the use of new approaches to economics and mathematics modelling and implementation of intelligent and adaptive information technology). Due to the limited amount of the article, the details of these applications will be set out in the following publications.

2. THE RELATIONSHIP OF THE AUTHOR'S REVISION WITH IMPORTANT SCIENTIFIC AND PRACTICAL TASKS

In the ongoing process of adaptation of national economy of Ukraine to global changes in the world economy, in the context of further EU integration and the context of the current systemic Ukrainian political and macroeconomic crisis, drastic increases in energy prices – improvement of logistic management taking into account the above effects is an extremely important tool for private and public corporations.

Features of logistical approach in management are being implemented through a change in priorities of management activities. The main role plays not the product but the process in the form of a stream. The control of flow processes, their transformation and integration is a form of management that transcends the traditional, both in terms of creative potential and effectiveness of the final results (Dudar, 2012: 18-20). This innovative integrated logistical management brings together the efforts of the managers of the company, its structural units and logistical partners through the management of material, financial and information flows at all levels of the supply chain.

The essential importance for the overlooked concept of integrated logistical management have the following properties: integration orientation (vertical and horizontal), focus on reducing production and sales costs, increasing capital turnover, focusing on efficient inventory management, quality logistics services, and flexible response to market needs.

The importance for domestic freight forwarding enterprises the introduction of overlooked concept is confirmed by several well-known out of scientific literature and evaluation of results of introduction of Western

companies the concept of integrated logistics management:

- for manufacturing companies - reduction of logistics costs by approximately 1% to 10% increase in profit from the sale (Veresk and Garbar, 2010: 1-4);

- according to the scientist at the H. Shtabenau logistics, transport and warehouse expenses in production are 15%, and in trade – up to 25% of the total cost, and the application of global sourcing approach to managing the costs can be typically reduced by one third, which gives the opportunity to significantly increase the profits of an enterprise (Savchuk, 2012: 1-3);

- the survey of 1,450 business conducted H. Peterson and described in his work “Trade, manufacturing and industry of service” showed the following additional arguments regarding the application of integrated logistical management as a key anti-crisis factor: the inventory quantity is reduced by 30 – 70%; productivity increased by 20-30%; the production cost is reduced by 30%; costs in the sphere of trade turnover reduced by 20%.

Most goods and services in the globalized market have almost the same properties, approximately equal rates and often produced in the same conditions and regions. So when in globalised markets the probability of differentiation of production on its properties or the quality decreases, and the corporate image or strategy of firms difficult to change in the short term, improving the logistics management has become an increasingly important competitive factor. In such difficult conditions, our competitive advantage may arise from the ability of the firm through its logistical activity to achieve differences in market segmentation, changes in the economic environment and market requirements and also changes of their own and other tactical maneuvers (this task at least). Ideally, the majority of companies, within the overlooked concept of management, it is necessary to carry out the reengineering of all business processes to adapt to an integrated multidimensional concept of anti-crisis logistics.

Thus, in conditions of a globalized open economy of Ukraine and the current systemic political and economic crisis, the adaptation of the concept of logistical management of the Ukrainian (both private and public) enterprise and the development of technologies for its effective implementation allows to optimize the commodity, financial and information flows of the Ukrainian company, to ensure the harmonization of interests of all participants in the chain of distribution, to optimize costs

and other internal financial performance, which will ultimately lead to an increase in the stability/liquidity of business activity and systemic stability of the company in the market (which is an extremely important task in a crisis conditions), will provide the preconditions for sustainable development and support of the integrated competitiveness.

Still, one of the obstacles to quickly solving overlooked problems is the lack of preparedness of owners and top managers of domestic companies to total and transparent use of the systemic logistical management, fast implementation of logistic innovations (incl. logistic information system as a component of the corporate), transparent execution of total audit and reengineering of business structures and processes, that partly due to the presence of the “shadow” share of the businesses. Undoubtedly, an important part of solving this problem should be the relevant state sectoral policy in the industry.

3. ANALYSIS OF RECENT RESEARCHES AND PUBLICATIONS AND SELECTION OF THE PARTS OF THE GENERAL PROBLEM, WHICH IS DEDICATED THIS ARTICLE

Let us analyze in more detail the results of recent publications concerning the tasks of this study.

In the economic literature covering the problems of formation of the logistics in Ukraine and its development as a strategic approach to the management of the enterprise mainly analyzed the world experience of application of logistical approaches is the work of scholars such as: Dudar D. (Dudar, 2012: 18-20), Kal'chenko A. (Kal'chenko, 2006: 8-36), Mikolaichuk V. (Mikolaichuk, 1999:19-46), Chuhraj N. (Chuhraj, 2002: 24-88), Oliynuk J. (Olijnik, 2011: 52-112), Smirnov I. (Smirnov, 2008: 14-62).

The number of literature sources that explore issues relating to the functioning of the logistical information flows and logistic information systems of enterprises is small. Among the Ukrainian experts an important contribution to the development of information logistics made A. Kalchenko A. (Kal'chenko, 2006: 8-36), Krikavs'kij E. (Krikavs'kij, 2005: 47-126), Skic'ko V. (Skic'ko, 2016: 25-30).

However, relevant and still unresolved remains the question of development of complex concept of anti-crisis logistic management and the appropriate methodological

and information support of the overlooked concept in conditions of the Ukrainian crisis systemic phenomena.

To start the solution of the problem, it is necessary to conduct a comprehensive retrospective analysis of historical causal factors in the development of logistic management in Ukraine:

- A) In early post-Soviet period, logistic services in Ukraine was very simplistic and underdeveloped. Individual services were offered by transport companies (fleets) and customs brokers. According to the results of the calculation of specialists, in most sectors of the Ukrainian economy in the mid-90's, the unit logistic cost of production was at least 2 times higher than in Japan, Germany, USA. One the reasons was the disregard of the principles of logistics. Factors that led to the need of industry development: the changing philosophy of the market, the growth of international trade, the growth of traffic, the arrival on the market international corporations (UVK, 2011: 1-2).
- B) The Next period is characterized by the development of distribution and trading companies. They performed the functions of promotion, transportation and distribution of goods throughout the country. Later, from distributors and retail companies began to emerge the first logistics operators. First of all, to meet the needs for professional logistic services of international brands.
- C) Since 2000, appeared the national logistic companies that match the global level of development in its industry. The UVK logistic company founded in 2001, became the first in Ukraine 3PL-operator. In turn, on the market of Ukraine come the European logistic companies. This is the initial period of formation of the professional market of logistic services. However, at this early stage of development – it was not fully formed, not structured and in most cases opaque.
- D) The Period from 2006-2008 was quite successful for all players in the logistic market. Momentum of logistical operators were actively growing proportionally to the increase in demand for their services. In this period, on the market of warehouses came in developers. At the same time launched a number of major projects of construction of logistic centers.
- E) The Crisis or natural selection in practice. The financial crisis has become a real challenge for all market operators. Following the reduction in the supply and procurement in almost all areas in the first quarter of 2009 began to decrease and the number of operators in the logistic market, were frozen construction projects, passed the inevitable reduction. Those that “survived” worked on the verge of profitability, and often at a loss.
- F) After overcoming consequences of the world financial crisis of 2009, prior to the annexation of Crimea and further clashes in the East of Ukraine, logistic market of Ukraine was able to stabilize. It became more civilized, open and professional. The participant companies were interested in developing their business and Client's business, boldly went to the introduction of innovative solutions and IT products, were looking for new methods for optimization of logistic costs. Become new directions which were specialized in logistics. Transport operators not only developed their competitive advantages, but also cooperated. Actively worked industry associations, communities. This phase was characterized by an active exchange of expertise to produce a synergetic effect for each participant. Ukrainian business has evaluated the important role of logistics. In an effort to optimize the related costs of business, to increase customer loyalty, to gain a strategic advantage over competitors, managers increasingly resorted to increasing their logistics performance throughout the whole supply chain.
- G) After the annexation of Crimea and the outbreak of military conflict in the East of Ukraine, there were huge changes and upheavals in the transport and logistic business, which led to the bankruptcy or systemic crisis of the majority of domestic transport companies, namely:
- transit restrictions by the Russian Federation for international transportation of domestic exporters and importers;
 - a significant reduction in internal transportation through significant reduction of Ukraine's GDP;
 - a significant reduction in international logistics transportation of imports from the EU because of the significant drop in consumption in Ukraine;
 - a radical change in the standard logistic routes within Ukraine;
 - a significant and unpredictable increase in price competition in the traditional logistic market due to the sharp transfer of a large number of private vehicles and the corresponding labor force from the occupied regions of eastern Ukraine;
 - the growth of the shadow component of the transport and logistic business due to illicit flows and

pseudoexport and pseudoimport (transit through the territory of the Russian Federation).

Given the above analysis becomes more urgent scientific and practical solution of the main problem of this study.

4. NOVELTY, METHODOLOGICAL OR SCIENTIFIC SIGNIFICANCE, PRESENTATION OF THE BASIC MATERIAL

Below are the results of the research and development of methodological support of antirecessionary logistic management in the current conditions of Ukraine.

The strategic level of process management sets the system of goals and directions of development of the company and principles of assessment of the results of the business processes. Considering the overall long-term corporate strategy, is formed the portfolio of appropriate functional strategies. Logistical, as one of functional, reflects the direction of implementation of the overall strategy using the tools of the logistic management. Logistic strategy defines the development of logistics, which concerns the forms and means of its implementation in the enterprise, and marginal cross-functional coordination and integration (Redka, 2012: 187-191).

In the pre-crisis period, enterprises in their practical logistic activity used such common logistic strategies as:

- “Time-based Logistics” (logistics focused on time);
- “Just-in-time” (ensuring the availability of “required product in the required quantity and specified quality in the right place at the scheduled time for a particular user with minimal costs”);
- The “Requirement/resource planning” (planning of needs/resources);
- “Integrated Supply Chain”.

However, despite the need to overcome systemic and sectoral crises, the Ukrainian transport and forwarding companies should also consider the functionality of the following logistic strategies:

- low cost strategy, which is accompanied by processes of standardization that makes it possible to achieve economy of production. Standardization is not confined only to individual products, their elements, components, raw materials, but also documents, procedures, organizational structures, etc. that together provide a reduction in costs of logistic systems;

- logistical strategy of differentiation that resonates with marketing strategy of the development and formation needs of potential users and forms the logistic systems of allocation of goods in the place and time where and when there is a need;
- the strategy of consolidation (transportation, warehouses, inventory);
- the strategy of reduction, i.e. the elimination of stocks;
- logistic outsourcing;
- the strategy of logistic innovations.

Using the integrated innovation-oriented logistic management as a crisis factor suggests that the consequences of the decisions that are made in this area must be measurable in terms of their impact on functional costs and income from the sale of goods. In this regard, relevant is the problem of finding the method of control of parameters, that the most correctly reflect the connection of logistics with the basic integrated economic and financial indicators of the firms. However, in the current environment it is difficult to define and assess not only the quality indicators of the impacts of logistic solutions and even qualitative indicators. This can be done under the following conditions (Tripus, 2013: 1-4):

- conduct a comprehensive analysis of the costs and income of structural divisions of the companies and all supply chain participants based on the application of the principle of missions and a common methodology for costs calculating;
- determine the percentage of the profit from logistic activity in the total profits of the company;
- implementation and effective operation of the corporate logistic information systems.

The selected strategy is implemented through logistic system. Logistic system is an adaptive feedback system that performs certain logistic functions (operations), consists of subsystems and has internally developed systemic connections and communication with the external environment. At the macrologistical level there are three types of logistic systems:

- logistic systems with direct connections (direct logistical system). In such systems the material flow passes directly from producer to consumer;
- layered logistic systems (echelon logistical system). They have at least one broker;
- flexible logistic systems (flexible logistical system). In such systems the material flow from producer to

consumer can be carried out by direct contacts and through intermediaries.

The logistic system has marked properties of adaptability, agility, coordination, optimality and energeticness. These properties need to be assessed and considered when developing a logistic strategy for a particular company.

The capacity of the logistic system depends on the method of movement along the supply chains of material, financial and information flows and is determined by the existence of close interrelations between its subsystems. The issue of determining the future capacity of the logistic system is the task of economic-mathematical modeling based on all the factors developed anti-crisis logistic strategy.

In the current macroeconomic environment, it is important the wording of the anti-crisis logistic strategy (and design the appropriate logistic system) based on the current state of the industry, region and enterprise specific. In the best way, this is realized by constructing a dynamic model of logistics management of the enterprise. The basis for constructing such a model should be based on two criteria: the company's relation to the crisis situation, taking into account the degree of its manifestation and the level of efficiency of management of logistics processes.

The use of such model by establishing the situation of the company allows to allocate following variants of logistic strategies:

- I quadrant (easy state of crisis and effective management of logistic processes) – marketing logistical strategies (the strategy of partnership “manufacturer – distributor”, the strategy of VMI – manage vendor inventory of the consumer, strategy ECR – efficient response to consumer demands);
- II quadrant (strong crisis condition and effective management of logistic processes) – production logistic strategies (strategy of production and technological restructuring, the strategy of reengineering of business processes, strategy of integrating of production);
- III quadrant (strong crisis condition and inefficient management of logistic processes) – organizational logistic strategies (organizational management restructuring of logistic processes, the strategy of reengineering of business processes, strategy of elimination);

IV quadrant (easy state of crisis and inefficient management of logistic processes) – financial logistic strategies (strategy of financial restructuring of logistic processes, strategy of financial reengineering of logistic processes, strategy of financial control of logistic processes).

Through the limitation of this publication, in subsequent publications will be detailed description of the components of developed anti-crisis logistic strategy: the system controlling of logistics activity, adaptive management of its risk, changing the policy of outsourcing of logistics services, optimization and coordination of multi-modal transit transportation, providing complex logistics security of the enterprise, the use of new approaches to modeling and improving the adaptive information technologies (Krasniuk, 2007:23-25) to increase the stability in logistics management in the context of macroeconomic iterative systemic crisis.

5. MAIN CONCLUSIONS

Based on the complex retrospective analysis of systemic causal factors in the development of logistic management in Ukraine and on coordinated analysis of influence of crisis phenomena – was executed the development of methodological support for comprehensive anti-crisis logistic management. The developed concept of anti-crisis logistic management includes: policy of total controlling of logistic activity, dynamic management of the outsourcing of logistic services, continuous optimization and coordination of transit transportation, ensuring the logistic security and appropriate risk management, improving the simulation of the logistic activity in compiled crisis conditions, the use of relevant innovative information technologies to improve robustness of the logistic management in conditions of both direct influence of the macroeconomic system of the Ukrainian crisis on logistic activity and the relevant secondary, iterative transformation processes in the economy.

6. PROSPECTS FOR THE USE OF THE RESEARCH RESULTS

The above results of the system analysis of causal factors of the transport-forwarding activity in Ukraine were conducted with emphasis on the effect of modern systemic crisis phenomena and resulted in the development of the strategy and methodological support for comprehensive anti-crisis logistic management.

Received in the article results can be used both by domestic freight forwarding companies and by foreign

companies in foreign markets of developing countries and/or are under the influence of the crisis phenomena.

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