

UDC 656.07+ 658.8

JEL Classification: N7, R49, L91

DEVELOPMENT OF LOGISTICS PARADIGMS

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Absrtact: *The practice of modern economics in terms of reducing production costs is increasingly in need of new, more effective means and methods. Among them it is necessary to include a special and effective method, or the law of logistics 20-80, which was discovered back in 1895 by Vilfredo Pareto. There is another law of logistics, this is the law of logistics 10-70, discovered in 1996, which is known as the "2C70" method, but which is actively used only in one field of activity - in higher school pedagogy and mainly only in the faculty of management and business I'm looking for The law of logistics 5-50 also remains unknown, Pareto also discovered it, and in 2010 it was established again and independently of him. Analysis of logistics for thousands of years of its existence shows that there are still significant difficulties in understanding it. The reason for this is not a sufficiently deep understanding of the meaning of the laws of logistics and even their ignorance among a wide range of practitioners and researchers regarding their important role. Two more private laws of logistics (0-0 and 100-100) remain unknown and opened in 2020, as well as the Basic Law of Logistics (OZL), opened in the same year. It is the OZL that provides the opportunity to define and use a number of other private laws of logistics, and the choice of each of them can take into account the peculiarities and conditions of a particular enterprise. Unfortunately, there is also a misunderstanding of the meaning not only of laws, but also of other important aspects of logistics: logistics is often called that which does not contain the use of any law of logistics. Therefore, it must be stated that for almost a thousand years of existence of the term "logistics" a significant part of its main aspects has not been defined. According to the authors, the most important aspects of logistics are: object, subject, essence, content (special costs and results), laws and special paradigms of logistics. Therefore, their definition is becoming more and more relevant.*

Keywords: *enterprise, logistics, laws, methods, methodology, object, subject, essence, costs, results, paradigms, global strategies, paradigm development model*

Formulation of the problem

The practice of modern economics in terms of reducing production costs is increasingly in need of new, more effective means and methods. Among them it is necessary to include a special and effective method, or the law of logistics 20-80, which was discovered back in 1895 by the Italian economist and sociologist Vilfredo Pareto [1]. There is another law of logistics, this is the law of logistics 10-70, discovered in 1996, which is known as the "2C70" method, but which is actively used only in one field of activity - in higher school pedagogy and mainly only in the faculty of management and business KhNAHU [2]. The law of logistics 5-50, also discovered by Pareto, remains unknown, and in 2010 it was established again and independently of him in [2]. Analysis of logistics for thousands of years of existence shows that there are still significant difficulties in understanding it. And this is not accidental. The reason for this is not a sufficiently deep understanding of the meaning of the laws of logistics and even their ignorance among a wide range of practitioners and researchers regarding their important role. Two more private laws of logistics (0-0

and 100-100) remain unknown and were opened in 2020, as well as the Basic Law of Logistics (BLL), opened in the same year [3]. As established by its authors, the BLL provides an opportunity to define and use a number of other private laws of logistics, and the choice of each of them may take into account the peculiarities and conditions of a particular enterprise. Unfortunately, there is also a misunderstanding of the meaning of not only laws, but also other important aspects of logistics. A review of literary sources also shows that what is often called logistics is also what does not contain the use of any law of logistics. Therefore, it must be stated that for almost a thousand years of existence of the term "logistics" a significant part of its main aspects has not been defined. According to the authors, the most important aspects of logistics are: object, subject, essence, content (special costs and results), laws and special paradigms of logistics. Moreover, what is not substantiated by the preliminary definition of other main aspects is given as a logistics paradigm. This not only does not reduce the production costs of the enterprise, but on the contrary leads to the implementation of a significant amount of simply unnecessary costs. Therefore, deepening the understanding of the true meaning of logistics through the definition, first of all, of its main aspects is becoming more and more relevant. By the way, this approach is logistical in itself.

Analysis of recent research and publications

It shows precisely that the authors do not consider the definition of the main aspects of logistics to be important and immediately proceed to the interpretation of logistics paradigms. But this fact is interesting – when defining logistics paradigms, they do not solve the previous main problem – defining the true meaning of the concept of "paradigm" itself.

Thus, such aspects of logistics as its object, subject, essence, content (costs and results), laws are not defined in [4]. At the same time, the author tries to define the paradigms of logistics, he did not quite clearly understand the very concept of "paradigm". He claims that: "A paradigm is a methodology, methods and ways of solving problems that are prominent during a certain period of time in society. Paradigms of logistics are closely related to four stages of its evolutionary development. Analytical, technological, marketing, and integrated paradigms of logistics are distinguished."

At the same time, it is determined that: "The analytical paradigm ... represents the original classical approach to logistics as a theoretical science. It was created on a mathematical basis, using the theory of inventory management, methods of mathematical statistics, economic cybernetics...".

From this interpretation of the analytical paradigm, it is impossible to determine in what time such a paradigm existed. There is no answer to the question - how can a paradigm of logistics be developed without using its basic law. The author of the publication proved in 2015 that any paradigm is nothing more than a basic law tested by time [5].

[4] is also characterized by the accumulation of terms and phrases that do not contribute to the understanding of the main aspects of logistics. Perhaps the only thing worthy of attention is the author's conclusion: "A characteristic feature of the analytical paradigm is the construction of a complex economic-mathematical model, which requires the use of a large amount of source information and complex construction algorithms. Therefore, its use in practice is difficult, with the exception of mass production." According to the authors of the article, the point is also that logistics is not interpreted logically without using its private laws.

And then the technological paradigm is interpreted in the same style. It is noted in [4] that it: "Appeared in the 1960s and is associated with the development of information and computer technologies. The theoretical basis of this paradigm is a systematic approach and consideration of quantitative indicators in the logistics system. The use of information technologies and software products is aimed at automating the performance of logistic functions and operations, as well as the collection and processing of information." Further: "Marketing paradigm. He has been presiding since the beginning of 1980 until now. The scientific basis of this paradigm, in addition to mathematical disciplines, is represented by socio-economic disciplines (marketing, quality management, personnel management). Therefore, in addition to quantitative indicators, qualitative indicators are used for decision-making. An example of the use of the marketing paradigm in

practice is the SCM (supply chain management system), which is used to strengthen the competitive position of the enterprise in conditions of uncertainty of demand.

Integral paradigm. Develops marketing and is aimed at improving relations between enterprises. An example of the practical implementation of this paradigm is the concept of "just in time" (JIT). The ultimate goal of the integral paradigm is the unification of all participants in the logistics process.

The development of logistics systems is carried out according to the principle from simple to complex and leads to the improvement of interaction between enterprises and divisions of the enterprise."

The authors consider it necessary to note that such an important aspect of logistics is not defined in [4] - what was its paradigm in the Ancient and even Pre-Antique eras.

However, other literary sources are largely a repetition [4]. An example of such repetition is [6]. The only thing that distinguishes [6] from [4] is that three more are added to the four so-called paradigms [4]: functional, resource and innovative. At the same time, the author shifts the emphasis from the definition of the essence of paradigms to the sphere of their use: "... logistics includes operational activities, including transportation, warehousing, cargo processing, customs clearance and insurance. The functions that until now characterized any type of business activity (cargo transportation, warehouse storage and customer order picking, etc.) in the practice of enterprises of industrially developed countries are gradually beginning to be attributed to logistics. And their implementation is subordinated to logistics units (departments, services, departments) or contractors – logistics intermediaries."

In [7], there is also a similar style: instead of defining the main aspects of logistics, the authors immediately proceed to a verbose interpretation of the concept of logistics about the separation of logistics into an independent branch of science with inherent methods and tools for regulating production processes, that the concept of logistics involves end-to-end optimization material, financial and information flows, which have a technological, organization.

Unsolved components of the general problem

The analysis of recent research and publications as a whole showed that the most important unresolved component of the problem of defining the main aspects of logistics is the lack of understanding of paradigms, hence the erroneous formation of logistics paradigms themselves.

Formulation of the goal and tasks of the gender

The purpose of the article was the development of actual logistics paradigms.

Tasks:

- to determine the object, subject and essence of logistics;
- to reveal the meaning of the methodology of developing the basic law of logistics (BLL);
- formulate the past, present and future paradigms of logistics;
- establish the main result of the article.

Research methods

Review of literary sources, 2C70, VEO, historical-logical, induction-deduction, theory of the Babaylov method.

Presentation of the main research material

When solving the first task of the article, it was established that logistics deals with nothing else than the organization of a ratio of research costs (Z), which are lost to the reduction of production costs (VZ), and the results of this reduction (P) that are pleasant for a particular enterprise. Therefore, this cost-result (C-R) ratio is the object of logistics. Therefore, Z-R is: Z – research costs, costs for the actual reduction of production costs; P – the results of reducing production costs.

It is necessary to emphasize the fact that logistics does not deal with the actual reduction of labor costs: it only organizes favorable, special, specific conditions for their reduction at the expense of special methods – logistics methods 20-80, 10-70, 5-50, etc. This is the essence of logistics. In the literature, the law "Just-in-time (JIT)" is often mistaken for the law of logistics [8].

According to the authors of this publication, this law is used precisely in the direct process of reducing production costs, but not in creating special, favorable conditions for their reduction. It does not provide a special, logistic effect, such as the 20-80 logistic law. By the way, the logistic effect of its use is defined as $80-20=60\%$.

It is the choice of one law of logistics that is pleasant for the specific conditions of a specific enterprise and is its subject.

The peculiarity of the methods-laws of logistics follows from the following. As already stated, there are research and production costs. As a rule, research and production costs are adequate to each other. So, for example, 20% of research costs lead to a reduction of 20 % of production costs. But the use of methods-laws of logistics is necessarily accompanied by the construction of a hierarchy of production costs and taking into account only the most important of them. So, for example, the use of the law-methodology of logistics 20-80 is accompanied by research and reductions of only 20 % of the most important production costs. It is this that leads to the fact that production costs are reduced not by 20 %, but by 80 %.

The same happens when using the laws-methods of logistics 10-70, 5-50. Only two laws of logistics 0-0 and 100-100 reveal dualism: they are both laws of logistics and laws of non-logistics. These two laws of logistics were unconsciously used before the discovery of the 20-80 law.

Fig. 1 shows a comparison of the Z-R ratios when using the laws-methods of logistics (curvilinear dependence) and in their absence (straight-line dependence).

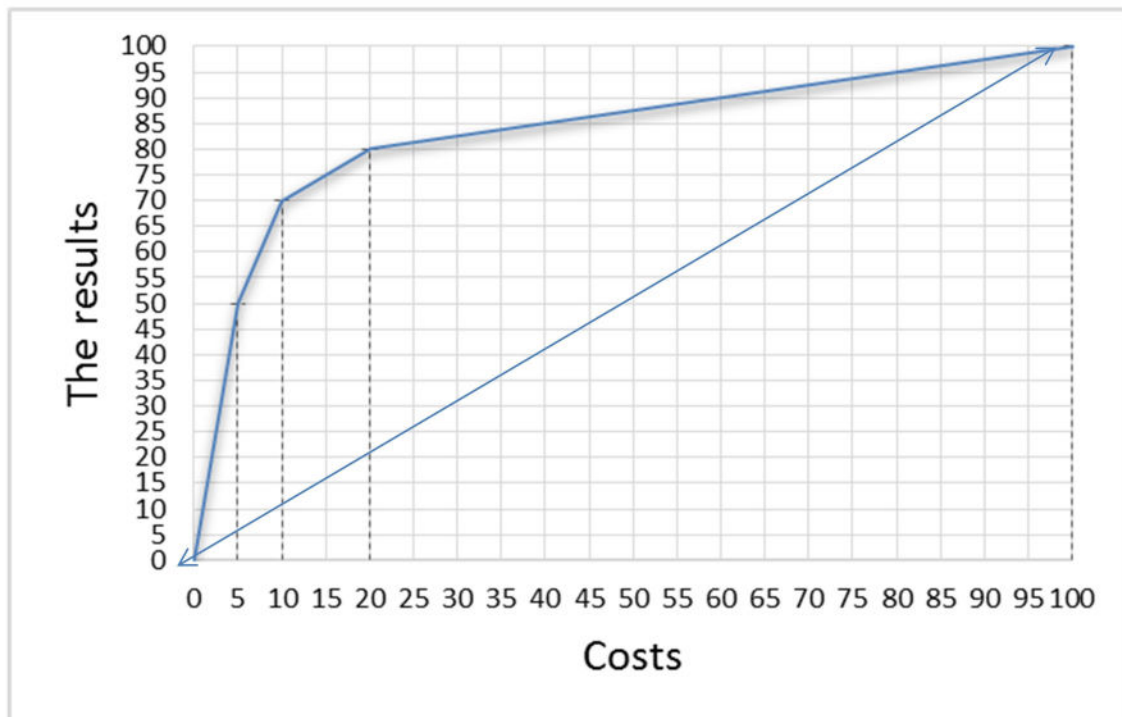


Fig. 1. Two dependences of results on costs

These results were proved in [3]. They note that Fig. 1 "...depicts the dependence of the results of the reduction of production costs (PC) on the costs directed to this reduction. And these costs depend on the number of types of PC, which also determine the volumes selected for the reduction of PC. For the possibility of their comparison, costs and results are determined as a percentage of their respective total values.

The disclosure of the methodology for the development of BLL (the second task of this publication) was based on the article [3]. She notes that only three laws of logistics: 20-80, 10-70, 5-50 were not enough to establish OZL. Therefore, the authors established two more rules of logistics 0-0 and 100-100.

Fig. 2 shows five well-known ratios of the laws-methods of logistics, five private laws of logistics, as discrete ratios of costs and results Z-R: 20-80, 10-70, 5-50.0 -0.100-100 [3].

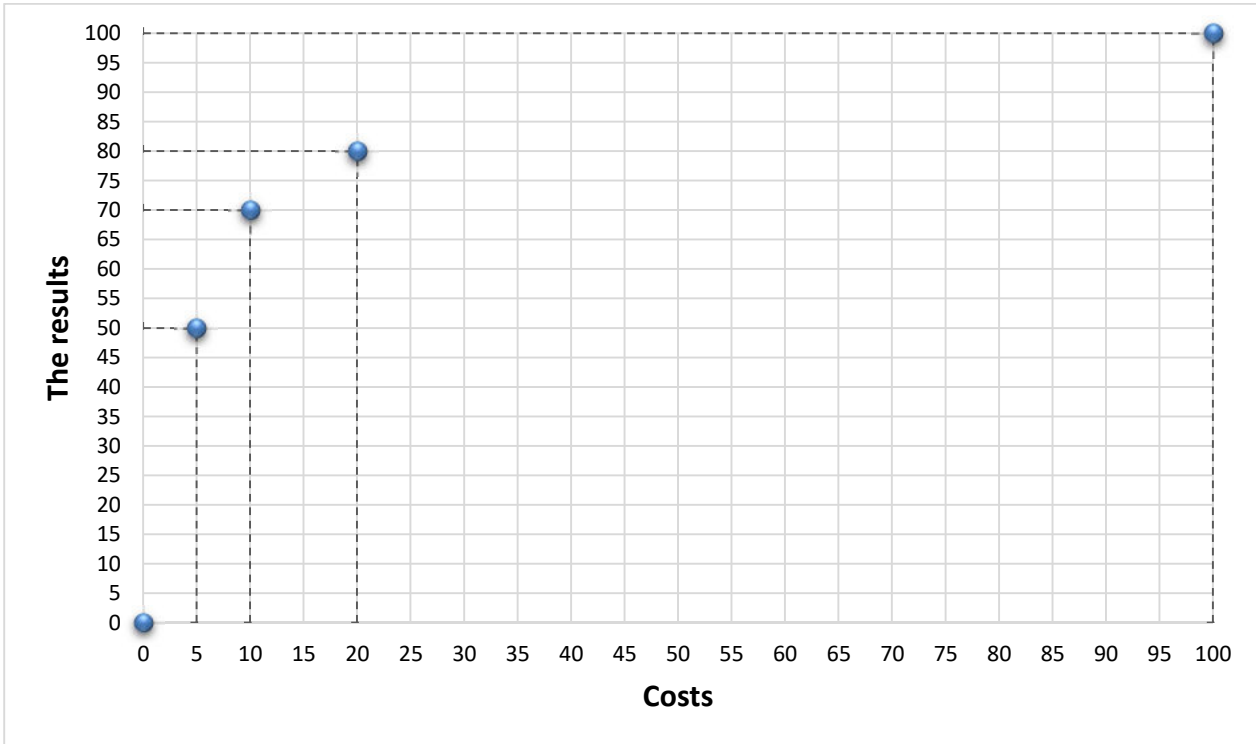


Fig. 2. Discrete regularity of Z-R

It was this that provided a real possibility of extrapolation of these discrete values of methods-laws into a continuous curve of 3-P dependence [3]. This curve has the meaning of BLL. It is presented in Fig. 3.

The installation of BLL opens an exceptionally new stage in the development of logistics.

The main meaning of BLL is a means of choosing a specific logistics method suitable for a specific enterprise.

The very existence of BLL made it possible to solve the third task of this publication - to develop logistics paradigms. This was implemented using the paradigm development model known since 2015 [5]. It also has the name "Model of fundamental research". In this publication, this is a specific model for the development of logistics paradigms (Table 1).

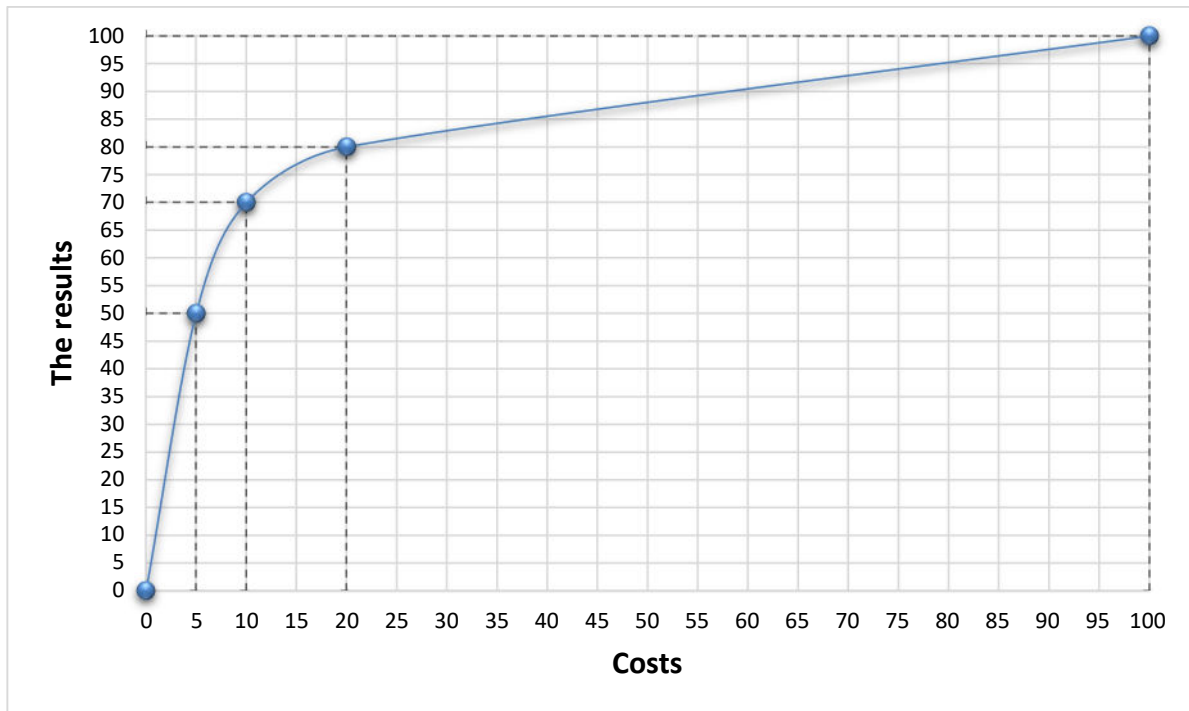


Fig. 3. The basic law of logistics

Table 1

Model (methodology and technology) of development of logistics paradigms

Fundamental methodologic	Methods and results of their application		
	Definition of the research object	Definition of the subject of further research (main problems)	Methods of solving the main problem/Results
Idea	Z-R ratio in %	The nature of Z-R is unknown	Intuition The dependence of P on C exists; how - the idea does not establish; this is the task of other levels of knowledge: hypotheses, concepts, theories, etc
Hypothesis	Dependence R from Z	The unknown quantitative relationship between P and Z	The logic of discrete facts Regularity: there are separate, different, discrete judgments about the quantitative relations of Z-R, including how 20-80
Concept	Regularity	Unknown calculation of the quantitative ratio Z-R	Logic of proof, calculation Law: calculated laws-methodology: 20-80. 10-70,5-50, 0-0,100-100, but not confirmed by practice
Theory	Legal methods	Laws-methodology, not tested by practice	Approbation by practice Laws-methodology of logistics 20-80, 5-50, 10-70, 0-0, 100-100 confirmed by practice
Basic theory	Laws - methods	Laws - methods	Generalization of the laws and methods of logistics The basic law of logistics (BLL): "Logistics is an organization of special methods-laws." This is the main method of logistics (MML)

Science	BLL	BLL, not tested by Time	Approbation of BLL (MML) by Time
			Paradigms of logistics as the use of mainly laws, respectively: 0-0, 100-100 (in the past era); 20-80, 10-70, 5-50 (in the modern era); one of the most suitable for a specific enterprise from BLL (in the future era)

Conclusions

So, the results of the conducted research are:

- defined object, subject, essence of logistics (object – the ratio of relevant costs and results; subject – the choice of one logistics law that is pleasant for the specific conditions of a particular enterprise; essence – the organization of favorable conditions for reducing production costs due to special methods – private laws of logistics);
- revealed the meaning of the methodology of development of OZL as an extrapolation of five private laws of logistics;
- formulated past, present and future paradigms of logistics;
- the main result of the article is established, as the development of three relevant paradigms of logistics.

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LOGİSTİK PARADİQMALARIN İNKİŞAFI

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Xülasə: *İstehsal xərclərinin azaldılması baxımından müasir iqtisadiyyat təcrübəsi getdikcə yeni, daha effektiv vasitə və üsullara ehtiyac duyur. Onların arasında xüsusi və effektiv metodu, yaxud hələ 1895-ci ildə Vilfredo Pareto tərəfindən kəşf edilmiş 20-80 logistika qanununu daxil etmək lazımdır. Logistikanın başqa qanunu da var, bu, 1996-cı ildə kəşf edilmiş, "2C70" metodu kimi tanınan, lakin yalnız bir fəaliyyət sahəsində - ali məktəb pedaqogikasında və əsasən də yalnız fəal şəkildə istifadə olunan logistikanın 10-70 qanunudur. menecment və biznes fakültəsində axtariram Logistika qanunu 5-50 də naməlum olaraq qalır, Pareto da bunu kəşf etdi və 2010-cu ildə ondan müstəqil olaraq yenidən quruldu. Logistikanın mövcud olduğu min illər ərzində təhlili göstərir ki, onu anlamaqda hələ də ciddi çətinliklər var. Bunun səbəbi logistika qanunlarının mənasını kifayət qədər dərindən dərk etməmək və hətta onların mühüm rolu ilə bağlı geniş təcrübəçilər və tədqiqatçılar arasında onların məlumatsızlığıdır. Logistikanın daha iki özəl qanunu (0-0 və 100-100) naməlum olaraq qalır və 2020-ci ildə açılıb, eləcə də həmin ildə açılan Logistikanın Əsas Qanunu (OZL). Məhz OZL logistikanın bir sıra digər özəl qanunlarını müəyyən etmək və istifadə etmək imkanını təmin edir və onların hər birinin seçilməsində konkret müəssisənin xüsusiyyətləri və şərtləri nəzərə alına bilər. Təəssüf ki, təkcə qanunların deyil, həm də logistikanın digər vacib aspektlərinin mənasını düzgün başa düşmək də var: logistikaya çox vaxt heç bir logistika qanununun istifadəsini ehtiva etməyən şey deyilir. Buna görə də qeyd etmək lazımdır ki, "logistika" termininin mövcud olduğu təxminən min il ərzində onun əsas aspektlərinin əhəmiyyətli bir hissəsi müəyyən edilməmişdir. Müəlliflərin fikrincə, logistikanın ən mühüm aspektləri bunlardır: obyekt, subyekt, mahiyyət, məzmun (xüsusi xərclər və nəticələr), logistikanın qanunları və xüsusi paradigmaları. Buna görə də onların tərifləri getdikcə aktuallaşır.*

Açar sözlər: *müəssisə, logistika, qanunlar, metodlar, metodologiya, obyekt, mövzu, mahiyyət, xərclər, nəticələr, paradigmalar, qlobal strategiyalar, paradigma inkişaf modeli*

РАЗВИТИЕ ЛОГИСТИЧЕСКИХ ПАРАДИГМ

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Украина

Резюме: *Практика современной экономики в части снижения издержек производства все больше нуждается в новых, более эффективных средствах и методах. К их числу следует отнести особый и действенный метод, или закон логистики 20-80, открытый еще в 1895 году Вильфредо Парето. Есть еще один закон логистики, это открытый в 1996 году закон логистики 10-70, который известен как метод «2С70», но который активно используется только в одной сфере деятельности – в педагогике высшей школы и в основном только на факультете менеджмента и бизнеса ищю Закон логистики 5-50 тоже остается неизвестным, его тоже открыл Парето, а в 2010 установили заново и независимо от него. Анализ логистики за тысячи лет ее существования показывает, что до сих пор существуют значительные трудности в ее понимании. Причиной этого является недостаточно глубокое понимание смысла законов логистики и даже незнание их важной*

роли широким кругом практиков и исследователей. Еще два частных закона логистики (0-0 и 100-100) остаются неизвестными и открыты в 2020 году, как и Основной закон логистики (ОЗЛ), открытый в том же году. Именно ОЗЛ дает возможность определить и использовать ряд других частных законов логистики, причем выбор каждого из них может учитывать особенности и условия конкретного предприятия. К сожалению, имеет место и непонимание смысла не только законов, но и других важных аспектов логистики: логистикой часто называют то, что не содержит применения какого-либо закона логистики. Поэтому необходимо констатировать, что за почти тысячелетнее существование термина «логистика» значительная часть его основных аспектов так и не была определена. По мнению авторов, важнейшими аспектами логистики являются: объект, предмет, сущность, содержание (особые затраты и результаты), законы и особые парадигмы логистики. Поэтому их определение становится все более актуальным.

Ключевые слова: предприятие, логистика, законы, методы, методология, объект, субъект, сущность, затраты, результаты, парадигмы, глобальные стратегии, модель развития парадигмы

Elmi redaktor: i.e.d., dos. M.Gülalhyev

Çara təqdim edən redaktor: i.f.d., dos. N.Qədimli

Daxil olub: 12.01.2023

Çara qəbul edilib: 19.01.2023