MYKOLO ROMERIO UNIVERSITETAS
Uniwersytet Wrocławski

ISSN 1822-8011 (print)
ISSN 1822-8038 (online)
INTELEKTINĖ EKONOMIKA
INTELLECTUAL ECONOMICS
2014, Vol. 8, No. 1(19), p. 92–115

EXPLICATIONS AND INTERPRETATIONS OF LOGISTIC ACTIVITY

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doi:10.13165/IE-14-8-1-07

Abstract. This theoretical article explores logistic activity. It reviews, evaluates and compares definitions, explications and interpretations of logistic activity. The author offers and discusses four cases of interpretation of logistic activity, highlighting and focusing on logistic activity in a broad sense.

The author discusses features of logistic activity, its links with logistics, supply chain and marketing. The article presents an overview of a series of terms related to logistic activity and logistics. An evaluation of a logistic approach as yet another candidate to be considered as a general scientific approach is presented.

The author has performed an analysis of elements of logistic activity and its components and presents a classification of the components of logistic activity, namely phenomena and actions.

Much attention is paid to the interaction between subjects of logistic activities, peculiarities of such interaction at the current stage of human activity, highlighting and discussing institutions performing control operations.

The author discusses in detail the material flows in logistics and logistic activities and analyses the impact of logistic activities on these flows. In the article, a definition of the material flow in logistic activity, the properties of such flow are analysed, and several classifications of material flows are proposed. The performed flow analysis has shown that it is appropriate to distinguish and analyse not only material flows, but also the resources of logistic activities.

The article contains a comprehensive analysis of the concept of logistic activity, which is the main goal of this publication.

JEL classification: R42.
Keywords: logistics, logistic activity, material flows, resources of logistic activity.
Reikšminiai žodžiai: logistika, logistinė veikla, materialieji srautai, logistinės veiklos resursai.

Introduction

For centuries, people have grown, produced, processed, built, exchanged, bought, sold, donated, or otherwise used a variety of items, and performed all of these actions without associating this activity with logistics. The military area may be considered to be a partial exception, as considerable attention has for long been given to the transportation, storage,

and stock formation of persons, arms, ammunition, munitions, food and other items. However, even these actions with items were taken for granted, were carried out more or less rationally and were not attributed to logistics as a special area of science and cognition.

It is as late as in the twentieth century, and in particular the second half of the century, that representatives of the military and, subsequently, large-scale international business actors analysed cargo operations, costs of these operations and other factors affecting the flow of goods and established that a comprehensive and integrated analysis of cargo handling could deliver tangible additional benefits. The utility gained in controlling and, not infrequently, the necessity to control the flow of material assets in order to achieve the objectives set were clearly perceived, and the term 'logistics' was chosen to refer to the new field of science and knowledge about these flows.

Diverging interpretations of the term 'logistics' have already been proposed and are still offered, logistics has invaded virtually all areas of human activity, and various areas of logistics, such as supply, distribution, production, transport, customs, sports, manufacturing, and others, are emerging. Interpretations of logistics and logistic activity vary greatly and are often associated with marketing, supply chain management and/or certain features of this activity.

Logistic activity is observed in business, military science, during mass events, in tourism, transport and many other situations. These observations are drawn by representatives of various countries in their own way, differently naming the same phenomena, emphasising and ignoring some or other aspects of logistic activities, but the majority of researchers in most situations agree that the focus is on logistics, the importance and impact of which in today's life are rather hard to overestimate.

The efforts to locate or 'squeeze out' additional utility in what happened yesterday, but produced no or little utility are full of explications and interpretations of logistic activity, each of which seems to be correct and useful in its own way. This article aims at reviewing links between logistic activity and logistics, discussing the peculiarities of this activity, providing simple and non-specialised interpretations of logistic activity, distinguishing and separating flows and resources of logistic activity.

1. Peculiarities of logistic activity and its links with logistics

Logistic activity is understood and interpreted in a variety of ways, often linking it or even identifying it with logistics. In the twentieth century, logistics affected many areas of human activity (military science, business, sports, etc.), which led to an ongoing active and intensive search for truths of the science of logistics. Some authors argue that logistics is a specific area of economic knowledge investigating the patterns of movement of material assets (Скворонек *et al*., 2004); a science of management of transportation, storage and other material and non-material operations from the acquisition of (raw) materials to their delivery to a production company, the processing of internal industrial (raw) materials and semi-finished products, delivery to the consumer of finished products meeting the consumer's interests and requirements, also the transfer, storage and processing of the necessary information; an interdisciplinary field of science which is

directly related to the search for new possibilities in increasing the efficiency of material flows (Garalis, 2003a); a science of planning, organisation, management, control and regulation of the movement of material and information flows in space and time from their original source to the end user (Eidukaitienė, 2006).

Other authors describe logistics as the activities of creation and provision of services to flows of goods ((raw) materials, machinery, final products, etc.) from the producer to the consumer (Urbonas, 2005); the activities including the strategic management of procurement, storage of materials, components and finished products and their movement together with the flow of associated information in the organisation and by its marketing channels in order to ensure the cost-efficient processing of orders, to maintain the maximum current profitability and to seek future profitability (Christopher, 2007); as interaction between two or more areas of activities whose purpose is to ensure the planning, production, control and the effective movement of raw materials, material resources and products from the production point to the point of consumption (Palšaitis, 2010).

Yet other authors associate logistics with planning, management and control of the movement of energy, information, labour, and especially materials (raw materials, semi-finished products, finished products, waste) (Garalis, 2003b); the optimal planning, organisation and management of material flows (Minalga, 2009); the movement of goods or raw materials from the initial extraction/production point to the point of consumption (Židonis, 2002); targeted farming, which is manifested by the management of material flows in the areas of production and turnover (Garalis, 2003a), often emphasising the achievement of one or another pragmatic objective (profit increase, cost reduction, etc.).

Authors quite often align or even identify logistics with the supply chain and its management. In their opinion, logistics includes and joins into a unified process such diverse areas of activities as exchange of information, transportation, stock management, warehousing, cargo handling, and packaging (Bowersox *et al*, 2008). Logistics is understood as a totality of actions that are repeated in a factory until a raw material as the original product becomes (is transformed into) a final product that is delivered to the required point (Круминьш et al, 2007); as resource management in the supply chain involving the procurement of materials, production planning, delivery of manufactured products to consumers and all the information and financial flows necessary for the management of material resources (Palšaitis, 2010).

For the authors following this approach, one of the key concepts is the supply chain, which is understood as a mechanism with the help of which goods move and are transported from the raw material state to the status of value delivery to the end user (Schatt, 2008).

A number of authors believe that in order to meet logistic needs, it is necessary to perform a variety of actions, and companies attempt to combine their efforts and skills into a single whole in the marketing channel (Hines, 1993). The American Marketing Association defines the marketing/distribution channel as a structure connecting the internal units of an organisation with external agents and dealers, wholesale and retail traders assisting in the sales of goods, products and services (Baker, 1990).

In 1982, American scholar Keith Oliver proposed the concept of the supply chain, and it began to be widely used. In the initial stage of its formation, logistics was quite often understood as something that is related to the supply chain, but also as something

that is more than the distribution and/or sales of goods, products and services. It was argued that links of the logistics system can include both any supply chain participants and logistics infrastructure facilities (warehouses, terminals, etc.) and it was immediately added or clarified that the object of research of logistic activity was, is and will be material flows, their management and optimisation (Bowersox *et al*, 2008). Today, marketing, logistics, marketing logistics, international logistics, and many other areas related to logistics (distribution logistics, supply logistics, transport logistics, customs logistics, etc.) have more or less taken their shape or are about to take their final shape by defining their object, subject-matter, and aspects of consideration of logistic activity.

In the previous century, markets in raw materials, goods and services became global, and the volumes of flows of goods, services, vehicles, persons, money and other flows, as well as the speed of their movement rapidly grew. Activity specialisation and its globalisation has rapidly increased and continue to increase, and an intensive search for opportunities of increasing profit in non-focal and peripheral activity areas began. Emerging and rapidly developing information, computer and communication technologies opened up new unique opportunities for management, control, and/or otherwise influence not only flows of goods, but also the persons involved in the process.[1] Cargo flow management and administration, interaction of those involved in these processes yielded positive results – additional utility in various activity areas. It is the aspiration and possibility of obtaining additional utility in the activities already being implemented and, the more so, in envisaged activities that are one of the characteristics of logistic activity.

There was, and is still going on, a rapid process of integration of national businesses in the international market, which manifests itself in the growth of international trade, setting up of structural units of economic entities abroad, establishment of foreign companies and joint ventures, purchase of shares and/or piece of property of foreign economic entities, creation of clusters and other contemporary manifestations of this global phenomenon.

Development of trade, manufacturing and other activities has formed the need to coordinate specific phases of physical movement of (raw) materials, finished products and other flows: supply of raw materials, energy sources, stockpiling and stock management, processing of raw materials, product packaging, transportation, warehousing, waste disposal and other areas of material flow processing. The main goal of such coordination is to gain utility that is often identified with profit, cost reduction, capacity building or other pragmatic objectives.

An example of coordination of such activity may be one of the first integrated logistic systems created back in the middle of the last century by Henry Ford and including

[1] The term 'person' denotes both legal and natural persons. The term 'entity' denotes all persons (enterprises, organisations, companies, institutions, parties, movements, unions, associations, individual enterprises, persons pursuing activities on the basis of a business certificate, etc.), except for the natural persons not pursuing economic and commercial and/or other registered activities (passengers, tourists, etc.), who are identified by the term 'natural persons'. The term 'natural person' marks only the natural persons not engaged in any economic, commercial and/or other registered activities (passengers, tourists, etc.). The group of persons denoted by this term does not include natural persons acting as members of a sole proprietorship, the natural persons pursuing activities on the basis of a business certificate or a patent, etc., since they are considered as entities. The term 'economic entity' marks the persons engaged in economic and commercial activities.

a port, railways and roads (Gelderman, 1981). The system was used by the famous representative of international business to improve the sales of his products – cars. Upon perceiving the benefits of coordination of activities of entities, their cooperation and other forms of cooperation, different countries undertook effort to promote cooperation, joint activities, adoption of legislation validating and regulating clusters and other forms of cooperation among entities, introduce innovative practices of such cooperation.

The majority of authors note the importance of complexity, consistency in examining several areas of activities, versatility and multidimensionality in logistics. In the opinion of Garalis, tasks in logistics must be resolved using the knowledge of technique, technology, economics, and mathematics, and logistics needs to be presented as a unity of these areas (Garalis, 2003a). The author even introduces the term 'logistic approach' and argues that a logistic approach to material flow management is manifested primarily by changes in priorities of various types of economic activities, along with increase in the value of material flow management (Garalis, 2003a). Even if one opposes the author's view of the logistic approach as yet another general scientific approach along with systemic, structural, probabilistic or informational approaches, this view can be fully supported if it is to be seen as yet another way of manifesting complexity, versatility or multidimensionality of logistics.

A logistic approach is mentioned by Meidutė, Garalis and other authors, and the term 'logistisation' has even been introduced to describe the process of application of this approach (Барановский *et al*., 2007). Garalis does not limit himself to the use of one or another general scientific approach in logistics and believes that a new logistic approach exists and has the right to exist. The logistic approach is also mentioned by Taranov (Таранов, 2011). However, he does not go into more detail and limits himself to a discussion of peculiarities of the application of this approach. The term 'logistic approach' is included also in the abovementioned Dictionary of Most Common Logistics Terms, where it is defined as a complex presentation of the flow processes taking place in economic activities which is performed in developing logistics systems and chains with a view to optimising these economic activities (Барановский *et al*., 2007).

In the past century, the issues of gaining utility, supply, maintenance, distribution, manufacturing, and other issues (combating terrorism, smuggling reduction, environmental performance, etc.) were increasingly addressed on a global scale, decisions themselves became complicated, complex and requiring a detailed and reliable information. It became necessary to comprehensively consider various activities by integrating them, combining into a single whole, and complexity was and is one of the characteristics of logistic activities.

A certain counterbalance to the increasing complexity and its complement is integrity, which in logistics is also devoted an important place (Palšaitis, 2010). The importance of integration processes and their benefits began to emerge in the second half of the last century, and today it is understood by many.

Integrity is an abstract concept, hence it is not surprising that authors offer rather different interpretations of integrity in logistics. For some, integrity is consolidation into a single whole of areas of production activity separated and examined in isolation for a long period of time, namely, supply, production and disposal (Bowersox *et al*, 2008), for others it is creation of logistics systems (Барановский *et al*., 2007), yet for others it is joining of the processes taking place between the supplier and the end-user within the

supply chain (Židonis, 2002). Regardless of the ways in which integrity is manifested, it is one of the characteristics of logistic activity.

A variety of terms is used for the interpretation, elaboration and/or discussion of logistics and logistic activity:

- 'logistics system', 'logistic system', 'system of logistics services', 'business logistics system', 'basis of logistics system';
- 'logistics field', 'logistics task field', 'logistic environment', 'logistics sphere';
- 'logistics process', 'logistic function', 'logistics function', 'logistic operation';
- 'network of logistic activity', 'business logistics network', 'logistics chain', 'logistics link', 'logistic chain', 'logistic link', 'logistics channel', etc.

One of the most common terms used in logistics is 'system', which, together with one or another epithet reflecting logistics or supposed to reflect it (logistics, logistic, etc.), is used by most professionals in the area of logistics.

Palšaitis uses the terms 'business logistics system', 'logistic system', 'logistics system' (Palšaitis, 2010), but fails to define and explain in greater detail the latter two terms, although evaluation and transformation of logistic systems are even given a separate section in the textbook. According to the author, a business logistics system is a network of warehouses, retail markets, stocks, transportation, and information systems. Why, for example, wholesale markets or communication systems cannot be part of the business logistics system remains unclear, just as it remains unclear as to why it is a systemic approach as one of general scientific approaches that is necessary for the analysis of logistics, its control and weaknesses (Palšaitis, 2010), and the differences and similarities of the three terms used by the author remain unrevealed.

A rather comprehensive definition of a logistic system is given in the Dictionary of Most Common Logistics Terms (Барановский *et al*., 2007), according to which a logistic system is a structured totality of the elements connected by links and certain relations which is characterised by consistency and unity and performs some or other logistic functions. It can be observed that the essence of the logistic system so perceived comes down to logistic functions. Moreover, the Dictionary provides several dozens of other specialised definitions of the term 'logistics system'.

Minalga defines a logistics system as a business environment in which logistics processes affecting product changes take place (Minalga, 2009). A logistics system, just as logistics, is related only to business, more specifically, to production activities, which significantly narrows the applicability of the term, as the business activities do not fall within it cannot be used in the areas not attributed to business. In addition, the logistics system is interpreted using an undefined and unexplained term, namely, 'logistic process'.

Urbonas uses the terms 'logistics system' and 'system of logistics services'. The author assigns to a logistics system the technological, organisation, coordination and planning functions of the processes of supply and provision of finished products (Urbonas, 2005). In the opinion of that author, the totality of certain functions is in fact a logistics system, although most authors consider the logistics system to be only a means of ensuring the performance of these functions (see above). Urbonas also speaks about a certain inevitability of a systematic approach in logistics arguing that logistics is a system (in respect of international logistics).

The system of logistics (international logistics) services is understood as the totality of operations of supply of resources and provision of goods to end users and the ways and methods of implementation of links among them (Urbonas, 2005). Here it refers to a specific system of logistic services to which the author assigns certain operations and the ways and methods of performing these operations.

Garalis has defined a number of logistics terms, including the term 'logistic system', and published in 2003 the first Lithuanian Explanatory Dictionary of Logistics Terms, and he defines a logistic system as an adaptive system with feedback performing one or other logistic tasks and logistic operations (Garalis, 2003b).

In the opinion of Meidutė, a logistics system may be made up of subsystems, links and elements (Meidutė, 2012). However, the subsystems, links and elements could probably be used to make up any system, so this explanation says virtually nothing about the logistic system.

Bowersox and Closs speak about a basic framework for the logistics system, which consists of a logistic network connecting all elements belonging to this logistic system by means of material, information and financial flows (Bowersox *et al*, 2008).

The terms 'logistic system' and/or 'logistics system' are used by many authors, but most of them either fail to define this term or define through other terms or by listing some or other elements of this system, or in the end a logistic system is explained using the term 'system' with the emphasis on some or other characteristics of the logistic system.

The correct use of the rather widely applied terms 'logistics system' and 'logistic system' in the area of logistics is complicated due to diversity of interpretations and perceptions as well as universality of the systemic approach (this general scientific approach has as much in common with logistics as a probabilistic, structural, information or any other general scientific approach), hence it is not surprising that some authors consider these fundamental logistics terms as semantically non-strict ('blurred') and obscure terms (Барановский *et al*., 2007).

Paulauskas uses the terms 'logistics environment' and 'logistics field'. Logistics environment is understood as the factors, forces, restrictions, conditions, relationships, and circumstances associated with a managed object, that is, future events, information, objectives, alternatives and their analysis, decisions, their implementation and control as a general scheme of business management (Paulauskas, 2007). The definition of logistic environment is very broad and essentially descriptive and uses many other terms, hence it is difficult to understand the content of the defined term. The variety of managed objects is vast (state, counties, product quality, study process, etc.), and certainly not all of them should be attributed to logistics.

The author understands a logistics field as a specific action matrix affected by internal and external factors (Paulauskas, 2007), to which the author assigns policy, performance monitoring, performance, objectives, analysis, final version, information, initial decisions and analysis of alternatives. These two logistics terms have many common elements, such as information, objectives, analysis, and others, they are very abstract and fail to provide a clearer and simpler explanation of either logistics or logistic activity.

Minalga uses the term 'logistics task field', to which he assigns supply logistics, production logistics and distribution logistics and considers each of them to be a logistic

system (Minalga, 2009). It is a tangled interpretation, because the logistics task field includes several systems, at the same time being a kind of super-system, but this does not bring more clarity to the area of logistic activity and logistics.

Urbonas uses the term 'logistics sphere', which he defines as factors of supply of companies with raw materials and other production means and the services of selling the products produced by the companies ensuring the movement, creation and presentation in respective economic sectors of the flows of both resources and finished goods (Urbonas, 2005). The logistics sphere here is understood as a part of logistic activities covering the logistic services provided to producers.

Introduction of the terms 'logistics field', 'logistics task field', 'logistic environment', 'logistics sphere' does not essentially improve the understanding of logistics and logistic activity and possibly even complicates it, although they can be attributed to the efforts to do so.

Two more logistics terms are quite widely in use. They are 'logistic (logistics) process' and 'logistic (logistics) function'.

Minalga uses the term 'logistics process', but fails to define it, though he argues that logistics processes are associated with certain changes in material resources and uses the term for the purpose of defining the term 'logistics system'(Minalga, 2009). The author lists a number of activities (transportation, warehousing, transshipment, marking, etc.), which he calls logistics processes, but fails to provide a rule or a distinctive feature on the basis of which specific activities should be assigned, or should not be assigned, to the logistics process.

Palšaitis uses the term 'logistic handling process, to which he attributes the operations carried out in a certain sequence and ensuring effective links among these operations. The objective of all of these operations is to ensure the transfer of products from the production point to the consumption point at the required time (Palšaitis, 2010). Interpretation of a logistic process is specific and rather limited, because the purpose of the operations is 'framed' by the activities related to the transfer of products, along with the obligation to consume the material objects being transferred, the possibility of transferring flows only from the point of production, etc.

Some authors explain a logistic process as the performance of logistic operations (functions) organised in a certain way in time and enabling to achieve the goals of a logistic system (Барановский *et al.*, 2007). In this definition, the logistic process is understood as a certain totality of operations, but in this case it refers to a wide range of logistic operations in realising a specific goal.

The term 'logistic (logistics) process' should not be attributed to those which allow for successful interpretation of the terms 'logistics' and/or 'logistic activity'. It is derived from the term 'logistic operation', so both using and not using this term, but using the term 'logistic operation', logistics and logistic activity can equally successfully be explained or remain unexplained. The introduction of an additional term which represents a certain totality of logistic operations does not result in any significant change.

For the purpose of interpretation of logistic activity, professionals quite frequently use the term 'logistics (logistic) function'. According to the frequency of use, this term does not fall behind the term 'logistic system', but is usually defined and/or rather comprehensively explained.

Minalga uses the term 'logistics function'. The term is not defined, but the author explains that in a business enterprise, logistics performs many functions that are intended to help achieve the objectives of logistics and that they provide an opportunity to balance the enterprise's production capacities with the possibilities of suppliers and the market (Minalga, 2009). The author divides all logistics functions into three large categories: planning, handling and operational functions.

Interpretation of the term 'logistic function' is understandable and applicable in different situations, though the content of the term is very narrow, as a logistics function can provide a possibility of balancing an enterprise's production capacities with the possibilities of suppliers and the market, and cannot, according to the author, optimise production, make it more efficient, allow to increase competitiveness of products and achieve other goals of activities. The explanation that a logistic function in an enterprise (and only in an enterprise) performs many functions that are directed towards achievement of a goal says virtually nothing, because the majority of activities carried out by entities perform many functions, and these functions help to achieve selected targets. Adding the term 'logistic' to the term 'goals' does not make any substantial change.

A completely different interpretation of a function in logistics is provided by Bowersox and Closs. In their opinion, functions are traditional areas of specialisation of logistics which are of importance for the final success and which need to be considered as separate components of logistics competence, rather than as separate areas of activity (Bowersox *et al*, 2008). Thus, a function in logistics is associated with one or another area of activity, it is an important factor affecting the result of this activity, and it needs influencing to be considered in connection with logistics competence as its integral part.

The term 'logistic function' is used also by Taranov, but he does it in a highly specific manner – by considering the logistic functions of customs activities, rather than logistics, assigning to the former logistisation of the process of cargo handling in the customs, also customs operation of participants in international trade and logistic operators (Тарановв, 2011).

We have not only three different terms of one logistics concept – 'logistics function', function (in logistics)', and 'logistic function', but also essentially different logistics concepts. The term 'logistic function' helps to interpret some or other logistic activities and/or characteristics of these activities. This term, just as the term discussed above, namely, 'logistic process', is identical in its content to the totality of logistic operations. We will not discuss it in detail for the abovementioned reasons, and also due to the fact that interpretations of this term are highly different, as they are associated with one or another fragment of logistic activity, rather than logistic activities in general.

Researchers in the area of logistics quite frequently employ the terms 'logistics chain', 'logistic chain' and/or 'logistics channel' for the purpose of interpretation of logistic activity and logistics. In terms of frequency of use, these logistics terms do not fall behind any other terms used in the area of logistics, but if we consider the extent of use of the term 'supply chain, these logistics terms can be referred to as the most popular ones.

Christopher uses the term 'logistics chain' (Christopher, 2007), but does not define it. Minalga uses the term 'logistic chain' (Minalga, 2009) and also fails to define it, but provides an overview of the stages of this chain.

In his Dictionary of Logistics Terms, Garalis provides an interpretation of a logistic chain and argues that the logistic chain is a large number of natural and/or legal persons (manufacturers, distributors, warehouse users, etc.) performing logistic operations from the external material flow movement (supply) to the internal material flow movement (in the case of industrial consumption) and/or to the end user (in the case of non-industrial or personal consumption), and the simplest logistic chain consists of the supplier and the consumer (Garalis. 2003b).

In the opinion of Bowersox and Closs, the logistic chain starts with the process of raw material extraction and ends with the delivery of the product to the end user joining all the companies involved in this process (Bowersox *et al*, 2008). The presented definition of the logistic chain focuses on the actors involved in activities, but account is taken also of their activities, which are often described as operations.

The scholars researching in the field of logistics (Palšaitis, Garalis and some others) use the terms 'logistic activity network' and 'business logistics network' (Palšaitis, 2010; Garalis, 2003a). According to their meaning, they are close to the mentioned logistics terms 'logistic system' and 'business logistics system', but they emphasise their specific components: links and their points of intersection.

The terms 'link' and 'channel', and especially the term 'chain', are close by the understanding to the term 'network'. A network and a chain are understood as elements combined into a single whole, though the chain is rather associated with a linear derivative, and the network – with a planar or even spatial one. The term 'channel' seems to be inappropriate for the interpretation of logistic activity, but since this term has taken root and is widely used in marketing, a significant part of logistics professionals use this term.

There are indeed many logistics concepts and terms. Authors interpret the same concepts differently, and the same concept is defined by different terms, different concepts are defined by the same term, the derivative concepts indicating a similar content are referred to and interpreted in different ways. There is no certainty as to what concepts are original and what are derivative; a sufficiently clear connection among the proposed concepts is lacking. All this, as well as the broad nature and diversity of the content and applicability of the concepts 'logistics' and 'logistic activity' significantly complicate their interpretation and explication.

2. Phenomena and actions of logistic activity

Logistic activities, just as other (economic, commercial, voluntary, financial) activities can be understood as the actions deliberately organised by some people, their performance, work and/or the effort undertaken by other persons to achieve their goals, solve problems and implement objectives. Activities, including logistic activities, include actions, phenomena, operations and events. When talking about logistic activities, we will use the first two terms. Phenomena and actions are particles of logistic activities, its components. A phenomenon is a more solid and non-structured part of the activities, and an action is always focused on something (object) and it is performed by somebody (subject), that is, it contains constituent parts (objects and subjects).

Phenomena and actions of logistic activity have several properties. Phenomena and actions of other activities can be attributed to logistic activity. Cargo insurance, provision of security, and booking of a room in a motel for the driver are commercial, financial and economic actions which can be examined also as logistic activities. A specific action – representation in customs, determination of injury, transportation – may be seen both as logistic activities and as an action not attributed to these activities. Pursuit of profit is a commercial activity phenomenon, and it cannot be an element of voluntary activities, a cargo delivered by a volunteer for no consideration is a voluntary activity phenomenon, rather than a commercial phenomenon, drawing up of an estimate is attributed to financial, rather than economic, activity. Nevertheless, all of these phenomena and actions can be considered as elements of logistic activities.

Whether a specific phenomenon or action belongs or not to logistic activity depends first and foremost on the understanding of logistic activity and the person analysing them rather than on the nature of the phenomenon or the action. Logistic activities have their 'own' phenomena and actions attributable to them (transportation, warehousing, traffic jams at the border, loading, packing, forwarding, etc.), but it is possible not to attribute loading or warehousing to logistic activities, hence any other phenomenon or action can be considered as a component of logistic activity.

In the first half of the twentieth century, production volumes started to be coordinated with demand, and awareness was developed of the importance and meaning of disposal of manufactured goods and rendered services. Nevertheless, distribution of finished goods and their presentation for disposal were quite often considered as a phenomenon taken for granted, being unavoidable and not having any significant impact on performance as regards production activities. However, with the decline in production profits and increase in competition, the costs associated with production were brought under a more effective and global control. Production, distribution and disposal costs were put under the control, but insufficient and often peripheral attention was devoted to administration costs of material flows. New challenges, such as pollution of the natural environment, ecological requirements, increasing competition, growing customer needs and tighter requirements for services provided to the customers, were making the situation even more complex and more complicated.

Interaction among material flow consignors, consignees and persons providing services to them began to rapidly develop enabling to achieve and materialise competitive advantages leading to the creation of additional utility, which was increasingly often perceived from the international perspective. The necessity and inevitability (Gelderman, 1981) of agents, highlighted primarily in terms of disposal and distribution of manufactured products, were perceived and sensed (Herndon, 1969).

Interaction of consignors, consignees and agents involved more and more people in different countries of the world and eventually began to be referred to as logistic activity. Today, logistic activities in implementing set objectives are often carried by many people in different countries, and such activities are getting an increasingly varied and broad scope.

Logistics professionals rarely define or explain in detail the concept of logistic activity. Most of them take it for granted, consider it to be appropriate for logistics and often limit themselves to commenting on the fields of this activity or its specific aspects.

Moreover, in addition to the term 'logistic activity' another term is also used to denote this concept – 'logistics activity'.

Bowersox and Closs analyse logistics activities and distinguish nine functional areas of logistics: transportation, warehousing, packaging, materials handling (quality standards control), order processing, forecasting, planning of manufacturing operations, procurement, and choice of location (Bowersox *et al*, 2008).

In the opinion of Palšaitis, logistics is almost inseparable from logistic activities, which are divided into core and ancillary logistic activities. The author assigns to core areas of logistic activities customer support policies and standards, order processing, inventory management, transportation and warehousing and to ancillary areas – information processing and management, demand forecasting, selection of sites for manufacturing and warehousing, materials handling, provision (procurement), supply of spare parts, post-sale customer support, packaging, production waste management and handling of returned products (Palšaitis, 2010).

Minalga interprets logistics activities with the help of logistics functions intended to achieve logistics goals and also divides such activities into core and ancillary. However, in addition to the abovementioned areas of activities, the author also assigns to main logistics activities materials handling, packaging, information processing and arrangement. In fact, he also points out that there are no strict boundaries between core and ancillary logistics activities (Minalga, 2004).

We do not agree with the advance and theoretical division of logistic activities (areas of activities) into core and ancillary or secondary logistic activities, though in the given practical situation it is appropriate to do so.

According to the purpose, two more terms fairly broadly used in logistics, namely, 'management of logistics' and 'logistics management', are very close to the term 'logistic activity'.

Židonis defines management of logistics as the movement of goods or raw materials from the initial extraction/production point to the point of their consumption, also the processes of planning, implementation and control of flows of goods, services and information the aim of such processes being meeting of the needs of the consumer (Židonis, 2002).

Palšaitis interprets logistics management as a part of the supply chain process which pursues the aim of ensuring the planning, production and control of raw materials, material resources and products and effective movement of manufactured products and related information from the point of production to the point of consumption to satisfy customer requirements (Palšaitis, 2010).

Interpretations of the terms 'management of logistics' and 'logistics management' are closely linked with the term 'supply chain management', while some authors even identify the supply chain management with the evolutionary model of logistics in its current stage (Барановский *et al*., 2007). The terms 'management of logistics' and 'logistics management' will not be discussed in detail, as they are primarily related to the supply chain and its management, rather than logistics and logistic activity.

As it has already been mentioned, in logistics use is made of the terms 'logistic activity' and 'logistics activity'. The first term is more appropriate to denote the concept of logistic activity, because activities are associated with actions and acting, which can be undertaken

by live persons alone, and logistics is obviously not a live person. We do not aim at offering a definition of the concept 'logistic activity', as we consider it as one of the abstract concepts of logistics, but a few comments and explanations of this concept will be provided.

Logistic activity is fully revealed in international and global processes dominated by a comprehensive and integrated analysis of issues in respect of the movement of material flows, and a comprehensive and integrated analysis of a variety of areas of activities or various aspects of a specific activity is an important distinctive feature of logistic activity.

Today, various knowledge is required from a logistics professional, and along with improvement such a professional is gradually becoming a generalist, or someone who knows what is necessary and/or useful to know in various logistics-related areas of activity, rather than a better representative of a specific area of activity. Supporting this idea, Garalis also attempts to prove and justify the statement that a logistics professional must become head of a company's 'general staff' (Garalis, 2003a).

As regards the designation of the phenomena and actions comprising logistic activities, three groups can be identified. The first group includes those that are intended for, directed to or linked with the moving material flow (transportation, loading, decomposition of perishable goods, sealing of vehicles, replacement of the consignee, etc.). They will be referred to as phenomena of the flow or actions with the flow. The second group consists of the actions performed with the persons involved in logistic activities and the phenomena related to them (release of a subject from the obligation to provide a security, allowing a diplomat crossing the border to skip the queue, denial of a vehicle's admission to the country on grounds of the expired validity of the driver's visa, etc.), which will be referred to as phenomena of persons and actions with persons. The actions and phenomena of the third group are highly diverse, as they include all other actions of the persons involved in logistic activities or phenomena related to them (accounting of material assets in the warehouse, upgrading of the book issuance and return system in a library, optimisation of the layout of warehouses within the distribution network, selection of the best mode of transport or carrier, etc.). The latter will be referred to as activity phenomena and activity actions. The phenomena and actions of the first and second groups according to their meaning are also activity phenomena and actions. Of the totality of phenomena and actions, one should distinguish the phenomena and actions of the first and second groups as requiring particular attention.

In logistic activities, objects and subjects of activities are distinguished. Objects of logistic activities stand for something to which actions and phenomena attributed to logistical activities are directed, for which they are intended, or with which they are linked. It includes goods, cargo, vehicles, containers, packaging and other objects of logistic activities (postal items, tourists, information media, money, etc.). The objects of some actions and phenomena are clear and unambiguous (specific cargo is loaded on a vehicle, vehicles are carried by ferry, goods in a container lose their consumer properties due to prolonged transportation, etc.), while others are directed towards a group of objects (additional checks of Lithuanian products at the Russian border, insurance of manufactured products intended for transportation, etc.), yet others – to all potential objects (bridge movement ban on due to the critical state of the bridge, road icing, changes in a customs declaration form in use and the procedure for filling it out, etc.).

The totality of material objects (cargo, goods, luggage, postal items, etc.) which are simultaneously transported and/or moving from one place to another by one or more vehicles will be referred to as the flow of material objects (material flow). In logistic activities, flow actions are performed with the material flow and/or the objects constituting it, they are influenced by phenomena of the flow. A specific action or phenomenon may be directed to both the entire material flow (additional insurance is provided to the entire cargo, customs procedure applies to all goods in a container, etc.) and to a separate element or a group of elements of the flow (additional insurance may be provided only to a part of the cargo, several customs procedures may apply to goods in the container, etc.). Therefore, when saying 'action with the material flow' or 'phenomenon affecting the material flow and related to it' we will bear in mind that these actions and phenomena apply to both the flow and the objects which comprise it.

The moving material flow changes in space, that is, it is transported (departs) from one place, which we will refer to as the point of departure, and is carried (arrives) to a different location, which we will call a destination. Material flows and the objects constituting them are the main, but not the only objects of the flow. To the latter, the following can be attributed: warehouse documents that are prepared and are used while storing transit goods in a customs warehouse and which do not move with the cargo, the goods intended for destruction, cash deposit upon completion of the customs transit procedure and other objects of the flow that are directly related to the material flow, but do not move with it or move separately from it.

Subjects of logistic activities are the persons initiating actions with objects of logistics, performing and participating in them and/or otherwise related to the actions (collectively referred to as persons involved in actions), also the persons who initiate, participate in, control and/or otherwise affect phenomena influencing the objects of logistics and/or related to them (collectively referred to as persons involved in phenomena).

In the case of actions, subjects of logistic activities usually are specific and known (cargo is loaded on the plane by an economic entity servicing an airport terminal (its representatives), the exporter is represented in the customs by a specific customs broker, etc.), but in the case of phenomena subjects of logistic activities may be unknown, there may be more than one entity or there may be none at all (damage to goods, traffic jams at the border, road de-icing, etc.).

Authors refer to flow actions and/or phenomena as 'processing', restructuring (Garalis, 2003), conversion (Барановский *et al*., 2007), change and transformation (Minalga, 2004) or other rather generalised terms reflecting the potential impact of the flow or influence on it. Each of these terms describes the potential impact or influence on the flow only partially, but one needs to choose one of them. In our opinion, the term 'transformation' suits best. The word, which is derived from the Latin word *transformatio*, represents all possible conversions, metamorphoses, replacements, (self) reorganisations, (self) reformations and/or other changes in respect of objects of logistic activities.

Interaction among the persons initiating flow transformations (consignors, sellers, buyers, etc.), performing (carriers, freight forwarders, cargo handling companies, customs brokers, etc.), controlling (customs offices, transport inspection, security services, banks, etc.) and/or otherwise influencing them (commonly referred to as persons involved in

transformations) and their interaction with other subjects of logistic activities will be further referred to as interaction of persons.

Logistic activity, just as logistics itself, is understood more broadly or more narrowly and almost always subjectively, as there is yet no universally recognised definition of logistic activity, nor legal or any other acceptable legal regulation of this activity.

Four cases of interpretation of logistic activity may be distinguished:

- Logistic activity in a global sense: material flow transformations, interaction of the persons involved in them, activities of subjects of logistical activities (terminals, freight forwarders, logistic platforms, etc.) and other actions and phenomena of logistic activities;
- Logistic activity in a broad sense: all possible transformations of the flow and interaction of the persons involved in them;
- Understanding of logistic activity in a specific sense: certain flow transformation (warehousing, transportation, loading, etc.) and interaction among the persons involved in the transformations or individual aspects of such interaction, also activities of subjects of logistic activities;
- Understanding of logistic activity in a narrow sense: specific flow transformations, without examining or examining in no great detail interaction among the persons involved in the transformations, or individual situations of logistic activities.

Logistic activity in a broad sense is an increasingly widespread and varied interaction among individuals in today's and probably tomorrow's daily life in organising, administering, coordinating or controlling the activities of persons involved in transformations of the material flow. Simply speaking, logistic activity in a broad sense refers to the actions performed with material flows and the interaction of the persons performing these actions.

The increasingly broader and closer interaction of those involved in the process of flow movement (including their cooperation, competition, joint activities and other forms) in organising, administering, coordinating, controlling and/or otherwise influencing the activities of these persons while they perform transformations of the material stream is, in our opinion, an important distinctive feature of logistic activity.

In logistic activities, and more accurately – in personal interaction and material flow transformations, additional utility of the material flow (its components) is created. Utility of a material object (cost, value, origin, profit, level of needs satisfaction, etc.) is first and foremost determined by its properties (shape, taste, smell, ease of use, etc.), but is affected also by other factors. Even the best and most saleable goods that arrive late for an event (exhibition, sports competition, concert, etc.) lose some of their potential utility, as they are not in the place where they are required the most. The utility of the material object is determined not only by its properties, but also the actions performed with it and/or phenomena influencing it. In logistic activities, changes in the utility of the material flow take place, which are determined by the transformations of the material flow performed by subjects of logistic activities and their interaction.

It is possible to specify the interpretation of logistic activity presented in a broad sense by suggesting that logistic activity is an interaction between a transformation of the material flow leading to changes in utility of the material flow and and/or persons. Utility change is quite often narrowed down to increase in profit, cost reduction, or

another pragmatic objective, but its expression forms are inexhaustible (risk reduction, enhancement of competitiveness and security, etc.).

3. Material flows and resources of logistic activity

A number of authors acknowledge that objects of study in logistics are material flows, but they are often identified with flows of goods (cargo), while the latter are usually merely considered from the manufacturer's or seller's perspective distinguishing supply, production and distribution logistics (Minalga, 2004). Raw materials, products, materials, assembly parts, fuel, finished products, and some other material objects usually associated with production activity are attributed to material flows; the study focuses on material flows (Palšaitis, 2007) ignoring or not considering another significant part of flows of material objects (money, information media, tourists and passengers, etc.).

Logistic tasks to be dealt with arise in organising, administering, managing, controlling and/or otherwise influencing material flows of not only goods and/or cargo, but also vehicles, persons, money and other material flows (e.g., throughput capacity of a city or a junction; control of flows of persons and goods at mass events; distribution and collection of funds at bank branches; management of flows of persons, vehicles and cargo in the event of natural disasters, etc.). Therefore, it is appropriate to examine in logistics the flow of material objects of any nature and purpose, not just material flows of raw materials, products, goods or other flows related to production activity.

Buildings, land and many other items (infrastructure facilities, etc.) also include material objects, but there are no flows of such objects, because they cannot be transported or move in space while being in their normal state. Logistics considers material flows of not only raw materials, goods or products, but also of persons, animals, vehicles, robots and other material flows capable of moving in space.

Spatial changes are one of the changes in material flows analysed in logistics. The objects forming the material flow change over time, and their value, origin, customs status, owners, and consumer properties can change. The range of their transformations is very broad, but most authors (Minalga, 2009; Palšaitis, 2010) distinguish two main changes – in time and space. As regards logistics, time changes in material flows are of much importance, however it is changes in space, rather than changes in time, that are an exceptional property of the material flows analysed in logistics.

In logistics, material flows are always in the spotlight. Nevertheless, despite being the 'axis' of logistic activities, they are understood quite differently.

In the opinion of Minalga, logistics is based on the movement of material flows and their management, and the author attributes to the material flow (raw) materials, assembly parts, semi-finished products, fuel, and finished products. In addition, it is stated that three categories of flows circulate in a logistic system: material, information and financial flows, and the latter two flows (also being material) are constituents of the material flow (Minalga, 2004).

Urbonas analyses flows of a logistics channel and distinguishes three types of such flows: materials, information and money (Urbonas, 2005). However, any similarity of

attitudes begins and ends with the fact that three flows are identified and that they are referred to as similarly. Minalga attributes to the material flow material objects, while Urbonas – the service ensuring the movement of materials. The first author attributes to the information flow documents, the second – the information services chain. Financial transactions are assigned to the financial flow, and the logistics services monetary assessment chain – to the money flow.

Taranov distinguishes four flows in logistics (customs logistics): material, information, financial and services (Таранов , 2011). The author attributes to the material flow also non-material assets, but does not comment on the financial and services flows. The author's approach to flows in logistics is a peculiar one and requires rich imagination (one needs to imagine the possible movement of non-material assets or services).

Information, financial and material flows are distinguished in logistics by Bowersox and Closs (Bowersox *et al*., 2008), Braškienė (Braškienė, 2009) and other authors. This is basically the dominant approach. Despite this view, Garalis sees only two flows in logistics – goods and information (Garalis, 2003a), and Palšaitis (Palšaitis, 2010) distinguishes four flows: material flow, transport flow, information flow, and money flow. Other authors also distinguish between four flows, but instead of the transport flow they mention the service flow and join the material, information, financial and service flows into a single whole, which gives the name to logistic flows (Барановский *et al*., 2007).

As we can see, material flows in logistics are understood quite differently. We suggest that the material flow should be understood as a totality of material objects (cargo, goods, luggage, postal items, etc.), which are simultaneously transported and/or move by one or more vehicles from the point of departure to their destination.

The material flow is created and generated by exporters, producers, sellers, buyers, consignors and other subjects of logistic activities. Other persons handle the flow (carriers, freight forwarders, customs brokers, and others), control it (customs officers, border guards, vehicle inspectors, etc.) and/or otherwise influence it (competitors, etc.). All of these persons also participate in the generation, handling, management or control of other (information, financial, transport, etc.) flows.

The importance of raw materials, information, finances, energy and other resources is growing in various fields, and logistic activity is not any exception. It is a reliable, timely received and properly used information and knowledge, a rational and qualified communication among subjects of logistic activities, sufficient funds timely used for handling of logistic operations, documents prepared in a high-quality and professional way, effective use of elements of the logistic infrastructure, and the use of modern computer technologies alone that enable to successfully carry out logistic activities.

The role of these factors in logistics is really important, though we do not think that the best way to emphasise such importance is consideration of information, finances, transport, services, and/or other factors affecting logistic activities as flows of logistic activities (and information science).

Logistic activity, in its broad sense, is intended to serve a single flow – the material flow moving from the point of departure to its destination, and information, knowledge, finances, transport and other factors influencing logistic activities can be considered as

resources of logistic activity necessary for the movement of the material flow. Resources as means of limited availability can be very different: money, funds, stocks, savings, energy, human resources, information, computer resources, prestige, abilities, etc. Some of these resources are material, and some of them – not.

Therefore, in terms of movement of the material flow it is appropriate to use the term 'resource of logistic activity' and to consider and analyse information, finances, transport, energy, and/or other means of logistic activity of limited availability as resources used in the movement of the material flow, to be precise – as resources of logistic activity. Depending on the peculiarities of logistic activities and movement of the material flow, informational, financial, human and/or other resources become important and subject to analysis and/or evaluation.

The material flow (the objects constituting it) moves from the point of departure to its destination. Information, monetary resources, vehicles and/or other objects involved in logistic activities move in different and changing directions, some of them even do not move, but are used in such activities (e.g., knowledge, experience, etc.). All these objects participate in logistic activities, but their participation is highly different. Therefore, analysis of participation of all these material objects in logistic activities while understanding and treating them as specific flows does not facilitate these activities, but rather complicates them.

In addition, it is difficult to imagine how services move in logistic activities and it is difficult to explain what stands behind the service originator, the point of departure and destination and other circumstances evident in respect of the material flow. These are only some of the circumstances that have triggered the examination of so-called informational, financial and other material objects involved in logistic activities as resources of logistic activities rather than flows.

Urbonas analyses resources of logistic activities from a certain perspective. For this purpose, he uses the term 'potential of logistics services', to which he attributes the capital of an entity providing logistics services, production capacity, research base and expenditure for innovation, staff (Urbonas, 2005). The potential of logistics services reflects the possibilities of providing some or other logistic services, that is, perform necessary operations with the material flow.

Few authors discuss resources in logistics. Bowersox and Closs devote in their book an entire chapter to resources in logistics, but basically limit themselves to presenting an overview of information, and information and communication systems, and computer resources (Bowersox *et al*., 2008). In other fields – industry, construction, agriculture, etc. – it is an activity aspect understood and mastered long ago. We believe that logistic activities should not be an exception.

The material flows that are transported (move) are always more or less controlled by authorities[2] (customs, border guards, veterinary services, etc.) and/or other persons (consignors, carriers, consignees, agents, etc.). This control can be conditionally divided into two parts: institutional and non-institutional control. Control exercised by authorities

[2] In this section of the study, the term 'institution' is understood in its broad sense, that is, including not only the institutions to be established under the founding treaties of the European Communities and the Treaty on the Functioning of the European Union, but also all other institutions established and functioning in a country or group of countries (Grikienis et al, 2008).

on behalf of the state (group of states) is assigned to institutional control, and other control applied to material flows – to the second group. Depending on the impact of authorities on the movement of material flows, they are divided into three main groups:

- controlled material flows;
- uncontrolled material flows;
- mixed material flows.

The first group includes the material flows of the goods subject to customs supervision and excise goods, dangerous goods and some other material flows (consignments of arms, narcotic and psychotropic substances, etc.). The second group consists of material flows whose transportation (movement) is not controlled by the state or such control does not significantly affect the transportation or movement of these flows (transportation of goods in free circulation within a country from one city to another, travels of passengers within the country by train or by bus, transportation of household goods from one district of the city to another, etc.). The third group includes such material flows where one or more vehicles are used to simultaneously transport (move in one flow of material objects) the material objects both controlled and not controlled by authorities (transportation of goods being subject to customs supervision and freely circulating from one customs office to another, warehousing of excise and excise-free goods, loading of dangerous and non-dangerous goods in one container, etc.).

As material flows cross national borders, the customs border of a country and the customs border of the country into which the material flows are brought may be crossed as well. The material flows brought into the country and crossing the country's customs border (goods, vehicles, personal items, passengers, luggage and other material objects) are subject to customs supervision in the country, and the material flows brought to the country also become subject to customs supervision from the moment of bringing them into the customs territory. In some cases, customs supervision applies also to the material flows transported within a country (e.g., transportation of goods intended for export domestically from one customs office to another, where the export procedure is cancelled, and the goods are returned into free circulation).

Customs supervision in each country can have and has its own peculiarities, but regardless such peculiarities all material flows moving in a country (in its customs territory) may be divided into two parts: the material flows subject to customs supervision and those not subject to customs supervision.

As the material flow moves from the point of departure to its destination, transformations are performed with the flow itself and other objects involved in the movement of the flow (vehicles, entities, money, documents, etc.) leading to changes in this flow. These changes may take place simultaneously, they may be repeated several or even a dozen times, they can occur in a single location or in multiple locations, they may be caused by actions of one or more persons, etc. A change in the material flow is a versatile and complex process: a cargo may be transported from the point of departure to its destination by various means of transport, consignments of goods may be combined or divided, the cargo may be made subject to various customs procedures, etc.

A moving material flow has many properties – name, quantity, weight, value, volume, point of departure, point of destination, owner, vehicle carrying goods, warehouse where

goods were or will be temporarily stored, insured amount, route, departure time, expected arrival time, sender, recipient, and many others.

Some of them are important when carrying cargo within the country, others – on international routes, some are important to the consignor, other – to a freight forwarder, some properties are important for the transportation of postal items, others – perishable goods, some properties are devoted much attention, others – little attention, and the importance of evaluation of their importance is usually subjective: what is important for some is of little value for others and vice versa.

The material flow properties that are evaluated, analysed, monitored, controlled, etc. in specific logistic activities are regarded as high-value characteristics of the material flow (or characteristics).

Material flow characteristics will be divided into three groups: basic, additional and low-value characteristics.

The material flow consignor, consignee, point of departure, point of destination, title, vehicle used for the transportation of the material flow, data, properties reflecting the amount of the material flow (weight, volume, number) and/or other properties can be attributed to the main material flow characteristics.

Attribution or non-attribution of a material flow property to main characteristics is conditional and subjective. In one case, the value or origin of goods can be attributed to main characteristics of the material flow, whereas in other cases – not. For one logistics professional, data of a vehicle carrying cargo will be a main material flow characteristic, for another – an additional or low-value characteristic of this flow. However, any material flow is described by means of its characteristics, distinguishing among them main, additional and low-value ones.

Value, origin, packaging, cargo marking, hazard class, storage conditions, owner of goods and/or other significant properties of the material flow can be attributed to additional material flow characteristics. Other, less important flow properties can be attributed to low-value, but not ignored characteristics of the flows. All other material flow properties in logistic activities are considered as insignificant (unevaluated, unanalysed, unmonitored, uncontrolled, etc.). Assigning of specific properties of the material flow (e.g., origin or weight) to an additional or low-value characteristic of the flow depends on the person doing it, logistic activities carried out and other circumstances.

Both characteristics and transformations can be divided into main, additional and low-value ones. In a broad sense, logistic activity is first and foremost basic flow transformation, because it is such transformations and the persons involved in them and determining changes in material flow utility that are devoted most attention in logistics.

Conclusions

The awareness of the utility, and often also the necessity, of managing material flows as developed in the last century has exercised and continues to exercise a significant impact on trade, production, business and many other areas in which additional utility is sought through logistics in activities already being implemented and, even more so, in envisaged

activities. Interaction among material flow consignors, consignees, and the persons providing support to them, which enables to achieve and to materialise competitive advantages, is rapidly developing. The necessity and inevitability of agents, highlighted primarily in international interaction among subjects, have been perceived and sensed.

Logistic activity means actions carried out by the persons initiating transformations of material objects, performing and influencing them with these objects (goods, cargo, containers, vehicles, money, information, media, etc.), interaction among these persons (consignors, carriers, customs applicants, freight forwarders, providers of security, etc.) and interaction with other actors involved in transformations of material objects (state authorities, banks, etc.).

Logistic activities are fully revealed in international and global processes dominated by a comprehensive and integrated analysis of issues in respect of the movement of material flows, and a comprehensive and integrated analysis of a variety of areas of activities or various aspects of a specific activity is an important distinctive feature of logistic activity.

The proposed interpretations of logistic activity (logistic activity in a global sense, logistic activity in a broad sense, specific understanding of logistic activity and logistic activity in a narrow sense) reveal two important aspects of the perception of this activity, namely, actions with material flows and interaction of persons performing these actions.

In logistic activities, objects and subjects of such activities are distinguished. Objects of logistic activities stand for something to which actions and phenomena attributed to logistical activities are directed, for which they are intended, or with which they are linked. It includes goods, cargo, vehicles, containers, packaging and other objects (postal items, tourists, information media, money, etc.). Subjects of logistic activities are the persons initiating actions with objects of logistics, performing and participating in them and/or otherwise related to these actions, also the persons who initiate, participate in, control and/or otherwise affect phenomena influencing the objects of logistics and/or related to such objects.

Material flows are always more or less controlled by authorities (customs, border guards, veterinary services, etc.) or other persons (consignors, carriers, consignees, agents, etc.), and, depending on the impact of these persons, they are divided into uncontrolled, controlled and mixed material flows. Logistic activity, understood in a broad sense, is designed to support a single flow, namely, the material flow moving from the point of departure to its destination, and information, finances, knowledge, energy and other logistic activity means of limited availability are resources of logistic activities, rather than material flows in logistics.

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LOGISTINĖS VEIKLOS EKSPLIKACIJOS IR INTERPRETACIJOS

Santrauka. Šiame teorinio pobūdžio straipsnyje nagrinėjama logistinė veikla. Apžvelgiamos, vertinamos bei lyginamos logistinės veiklos apibrėžtys, aiškinimai ir interpretacijos. Pasiūlyti ir aptarti keturi logistinės veiklos interpretavimo atvejai, pagrindinį dėmesį skiriant logistinei veiklai jos plačiąja prasme.

Aptariamos logistinės veiklos ypatybės, jos sąsajos su logistika, tiekimo grandine ir marketingu. Atlikta kai kurių su logistine veikla ir logistika susijusių terminų apžvalga. Pateikiamas logistinio požiūrio, kaip dar vieno galimo bendramokslinio požiūrio, vertinimas.

Atlikta logistinės veiklos elementų, jos dedamųjų analizė, pateikiama logistinės veiklos sudėtinių dalių – reiškinių ir veiksmų – klasifikacija.

Daug dėmesio skiriama logistinės veiklos subjektų sąveikai, šios sąveikos ypatumams logistikos atsiradimo ir dabartiniame žmogiškosios veiklos etape, išskiriant ir aptariant kontrolės operacijas atliekančias institucijas.

Detaliai aptariami materialieji srautai logistikoje ir logistinėje veikloje, analizuojama logistinės veiklos įtaka šiems srautams. Pateikta materialiojo srauto logistinėje veikloje apibrėžtis, analizuojamos jo savybės, pasiūlytos kelios materialiųjų srautų klasifikacijos. Atlikta srautų analizė parodė, kad tikslinga išskirti ir analizuoti ne tik materialiuosius srautus, bet ir logistinės veiklos resursus.

Straipsnyje atlikta išsami sąvokas „logistinės veikla“ analizė, o tai ir buvo pagrindinis šio straipsnio tikslas.

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