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## SOCIAL LOGISTICS - CONCEPTUAL FOUNDATIONS AND FIELDS OF APPLICATION

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**Abstract:** Logistics continuously expands its application areas. In modern conditions, there is a need to apply logistics in areas not related to its traditional applications such as military and business spheres, resulting in the identification of a third area with the name social logistics. Social logistics aims to introduce a social (human) factor in the systems and to apply logistic principles and methods in solving the problems of society. The concept of social logistics (logistics of social flows and processes) is related but not identical with the concept of socially oriented logistics (study of the problems related to the impact of transport on the environment, packaging, processing and reverse logistics). Unlike socially oriented logistics, social logistics does not consider logistics of material goods and services. In its essence - optimizing material flows, social logistics remains unchanged from the traditional view of logistics, but the specificity of its application in the social sphere imposes a new vision for its development. The public sphere is a new field of application for logistics. The connection is logical, because practically all logistics activities are carried out with the participation of people, in the social sphere they directly or indirectly concern people and as a result they serve people. There is a need to take into account the needs and requirements of the individual, not just large groups of people (teams, staff in the enterprise, etc.), which also determines the role of logistics in the social sphere. Another reason for the development of social logistics is the growing tendency to achieve sustainable development, environmental protection and enhancement of corporate social responsibility.

These three elements of economic and social policy have a major impact on business decisions, mainly in the direction of changing the traditional way of thinking in organizing logistics activities. On this basis, there is a need to expand the field of logistics applications as a result of emerging new needs in every area of life and activity. In our opinion, social logistics is a multi-faceted concept that includes the application of a logistic concept based on the integration and optimization of material and human flows and the accompanying information flows to the provision of public spheres and activities directly or indirectly related to human health, their quality of life and their safety and security. The realization of social logistics in the public sphere requires active state intervention and building of the necessary logistic structures at the national, regional and municipal level, the appointment of logistics specialists and the use of the accumulated experience in the sphere of business logistics. For the purposes of this paper, a number of scientific approaches and methods have been applied, such as system approach, comparative analysis, critical analysis, synthesis and others. Social logistics aims to introduce a social (human) factor into the systems and to apply logistic principles and methods in solving the problems of society. Social logistics can be defined as a set of actions that ensure the effective functioning of social systems (such as a set of social phenomena, processes and subjects), applying the principles of logistics.

The purpose of this study is to study the characteristics and importance of social logistics, defining the concept of social logistics and outlining the areas of its application in the public sphere.

**Keywords:** Logistics, social logistics, public sphere

### 1. INTRODUCTION

Modern realities impose a new model of application of management science in areas beyond the traditional business sphere. This trend is particularly relevant for logistics. It originates in the military field, but in the 1950s it began its active application in the business. For decades, logistics as a science area of knowledge has been looking for opportunities to continually expand its application areas - from fragmented tasks to managing material and technical supplies to activities that integrate the entire supply chain management and management process of material production to the management of intellectual production (Philipov, 2015).

In today's conditions, the idea of applying logistics in areas that are not related, neither with the military nor with the business spheres, is urgently needed, as a result of which a third area with the name of social logistics is identified. Parallel to its development is the development of socially oriented business logistics, which is based on the application of the concept of corporate social responsibility. The aim of the present study is to study the characteristics and importance of social logistics, to define the concept of social logistics and to outline the areas of its application in the public sphere.

## 2. SOCIAL LOGISTICS

Social logistics aims to introduce a social (human) factor in the systems and to apply logistic principles and methods in solving the problems of society (Andrewshchenko, 2012, pp. 48-54). The first publications on the application of logistical principles to social processes emerged in the early 21st century, with social logistics gradually expanding its reach by addressing not only processes and flows at household level but also at city, regional and state level. For its part, the complexity of social flows raises problems, the solution of which requires the application of logistic rules and principles. The distinction between the three types of logistics - military, business and social - can be achieved on the basis of two criteria - rationality and a top priority of implementation (Шолтысек, 2011). (Table 1.)

*Table 1. Distinctive features of major types of logistics*

	<b>Military logistics</b>	<b>Business logistics</b>	<b>Social logistics</b>
<b>Type of rationality</b>	Organizational	Economic	Humanitarian
<b>Priority of application</b>	Safety	Profit	Quality of life

On this basis, social logistics can be defined as the art of managing socially significant material flows (and related information flows) in order to achieve certain spatial and temporal advantages necessary to ensure the proper functioning of society and to provide adequate quality of life (Kołodziejczyk & Szoltysek, 2009).

Social logistics is also seen as a set of algorithms that regulate social interactions. In social interaction, the subject of interaction is defined as a social actor - an actor (individual or collective), while in social logistics the subject is always an individual. Social logistics can also be defined as a set of actions that ensure the effective functioning of social systems (such as a set of social phenomena, processes and entities), applying the logistics principles (Philippov, 2015). Social logistics can also be seen as a means of forming socially accepted behavior of individuals and legal entities (Anikina et al., 2015).

The concept of social logistics (logistics of social flows and processes) is related but not identical with the concept of socially oriented logistics (study of the problems related to the impact of transport on the environment, packaging, processing and reverse logistics). Unlike socially oriented logistics, social logistics does not consider logistics of material goods and services. In its essence - optimizing material flows, social logistics remains unchanged from the traditional view of logistics, but the specificity of its application in the social sphere imposes a new vision for its development.

The public sphere is a new field of application for logistics. The connection is logical, because practically all logistics activities are carried out with the participation of people, in the social sphere they directly or indirectly concern people and as a result they serve people. There is a need to take into account the needs and requirements of the individual, not just large groups of people (teams, staff in the enterprise, etc.), which also determines the role of logistics in the social sphere. Another reason for the development of social logistics is the growing tendency to achieve sustainable development, environmental protection and enhancement of corporate social responsibility.

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## 3. AREAS OF APPLICATION OF SOCIAL LOGISTICS

The applications of logistics may change over time depending on the development of the three components - organizational, economic and humanitarian, defined according to the type of rationality (according to Table 1). The sum of these three components, interpreted as the ultimate way of thinking when making logistics solutions, however, should seek to achieve the maximum degree of satisfaction. The new logistics applications that form social logistics can be divided into three groups, based on the application frequency criterion in practice. (Table 2.)

*Table 2. Areas of application of social logistics, divided by the criterion of periodicity of application*

<b>With constant action</b>	<b>With periodic action - beginning and ending</b>	<b>If necessary</b>
Logistics of blood resources	Election Logistics	Humanitarian aid

Logistics of healthcare	Logistics of sporting events	Logistics of transport
Prison logistics	Logistics of mass events held at fixed locations	Logistics in transplantology
Logistics of tourism		Logistics of mass events
Urban logistics		Logistics of transport of dangerous goods
		Logistics to maintain order in the public space
		Logistics of the social message

The main aspects of logistics in the social sphere are distinguished in those areas where logistics has a permanent effect.

Such is **urban logistics**, which is characterized by rising social requirements. The development of urban logistics begins with problems related to the supply of goods in the centers of major cities and the need for the private transport companies to be involved in the implementation of the city's delivery tasks for all consumers. Initially, the concept of "urban logistics" is not related to securing the well-being of the city, the standard of living or the development of the city, as the concept of "city" is considered in an architectural and economic context. However, it shifts to the spatial-social context of the city and on this basis "urban logistics" acquires a new, social sense. Under the congruent conditions, the public dimension of urban logistics is manifested through the environmental goals of logistical improvement in the functioning of cities, subject to the principle of ensuring an adequate quality of life for residents. To this end, programs are being implemented to create a "logistical" public awareness of how to move, reduce congestion and pollution, and so on.

Urban logistics should be subordinated to the concept of integrated city flow management in order to streamline freight traffic in the city and position them in urban movements. The main task of urban logistics is the optimization of living space, which requires an adequate arrangement of the urban environment and the organization of public transport as a solution to the conflicts arising between "pedestrians - car - public transport - ecology" (Philippov, 2015).

The proper organization of the passages can greatly accelerate the flow of people, and the exact direction of the queue can solve the problems that are to a limited extent resolved with the mass service theory. Urban logistics is also directly related to the infrastructure changes in the city, which are the main prerequisite for the rationalization of the whole movement.

In current conditions, there is a tendency for the development of **social logistics in relation to crisis management** (Szołtysek, 2007). Crisis management is an extensive area of knowledge and application. Frequently, crisis management involves managing the crowd, transmitting specially prepared and processed information, and using physical coercion. Evacuation as one of the main forms of protection of the population in crisis situations requires, besides thorough planning and organizing, also all-round logistics (Kamarashev, 2012, p. 120).

**Logistics to maintain order in the public space** also has a growing role. Law enforcement organizations, police, riot police, city authorities, and public organizations are involved in action to maintain public order. Their actions should, however, be coordinated and resources identified and delivered on time, in the required quantity and quality, and at predetermined locations. These objectives directly correspond to the basic essence of logistics - management of material flows, but are realized in order to protect society.

**Sports** logistics include not only the crowd of viewers and fans but also all material support for sports facilities, sports teams, nutrition, accommodation and more. On this basis, the logistics of sport are directly related to the organization of the transport and hotel industries. Together, they are part of urban logistics, logistics, and health logistics.

An important application of logistical principles is observed in the cases of **humanitarian aid and implementation of humanitarian operations**. Assistance is organized and conducted in accordance with some modified principles for supply chain management.

Managing decisions mainly take into account the speed (timing) of the aid, its effectiveness (not in monetary terms, but the number and quality of the assistance provided) and human dignity.

The management of logistics of humanitarian aid is extremely complex and important, resulting in the creation of organizations fully committed to the development of this problem. Among the innovative structures specializing in this area are the Fritz Institute in San Francisco (USA) and the Association of Humanitarian Logistics (HLA), which works under its leadership. The training of logistics specialists in crises management and the organization of charity events started in Poland - for example, in the Higher School of Management and Administration in Opole, Poland, in

2009, a Master's degree program in Crisis Management and Humanitarian Logistics (Scholtzysek, 2011). has been opened.

A basic component of **social logistics is logistics in healthcare**. It has a prominent humanitarian character. The link between the ability to provide assistance in a timely manner and the organization of the material flows that contribute to the provision of this assistance are the subject of research and analysis.

Improving the health of the population leads, on the one hand, to reducing the loss of working hours and labor resources due to morbidity, disability, premature mortality and others and, on the other hand, an increase in labor productivity, which is related to the provision of good conditions for reproduction and labor. This determines the potential of the personal factor in production and increases human capital. Public health can therefore be seen as a specific element of national wealth.

The increasing complexity of social development processes and the need for an integrated approach to solving social problems are manifested directly and indirectly in the field of healthcare. Improving the activity of individual medical units is not the only and sufficient condition for solving such a multifaceted social task as improving the health of the population. This task objectively requires a comprehensive interdisciplinary approach that needs clear methodological rationale and appropriate methodological support.

A further issue for the subsequent development of the public health system is to ensure that the existing network of health institutions and municipal staff meet the needs of the population for medical care. This is due to the fact that modern economic mechanisms require payment of the provided medical services rather than the maintenance of empty institutions, which is particularly important in the conditions of insufficient resources. To this end, continuous monitoring is required to investigate the scope of medical staff activities, including therapeutic, diagnostic and preventive work, determining the number of staff in line with the established scope and prospects for the development of a network of healthcare establishments in the territories, which will contribute to a more rational (resource-saving) way of developing healthcare

According to Rakovska and Stratieva, the supply chain management practices should also apply to hospital care establishments. On the basis of a hierarchical cluster analysis, three clusters of score are identified which, on the basis of assessments of these practices, are identified as "leaders", "developing" and "lagging" health establishments. Appropriate models and strategies for effective supply chain management in healthcare establishments can be applied on the basis of this classification (Rakovska & Stratieva, 2018, p.4-24).

**The logistics of blood resources**, which can be defined as the logistics of blood supply management in the whole health system of one country, is one of the latest trends in logistics development. It is aimed not only at direct donor blood flow to a patient (through all chain elements), but also on optimization of stocks, based on group substitutability and the management of blood networks (Clark, 1995).

**The logistics of elections** is extremely important as an element of social logistics. The organization of an electoral company requires major efforts, mainly on a national scale, but all important actions are carried out in the preparatory (local) and local (especially on the day of elections). Clarity, accuracy and speed are necessary features of democratic elections. In order to be secured, however, it is appropriate to apply the logistics approach. Although the elections are held for a relatively short time, the process of preparation is very complex. Part of the time is clearly defined by the laws. It is necessary to provide suitable conditions for the realization of the material streams that are controlled, in view of the respect of the authenticity of the documents and the methods for their preservation. Election logistics also organizes site preparation (from a marketing and information point of view) and cleaning (posters and flyers, messages, tables, etc.) after the election.

Social logistics is entirely based on the logistic concept, but rather, instead of the economic system, the social system is considered, and the individuals and relationships between them are perceived as elements and related links in the logistics chain.

#### 4. CONCLUSIONS

- Social logistics is entirely based on the logistical concept, but rather, instead of the economic system, the public system is considered, and the individuals and their connections are perceived as elements and relevant links of the logistics chain. These applications of logistics are based on basic logistics and principles, but they have a specific social direction.
- The purpose of managing material flows and the accompanying information flows in these areas is to achieve the desired social effect, which is measured by the degree of satisfaction of basic society needs.
- In social logistics, members of society are not just consumers who buy goods or services but people who need protection and a higher quality of life. The applications of logistics in the social sphere are related to basic civil rights such as the right of people to be protected, healthy and to decide their life paths at different levels.
- Social logistics is a multifaceted concept that includes the application of a logistic concept based on the

integration and optimization of material and human flows and the accompanying information flows to the provision of public spheres and activities directly or indirectly related to human health, life and their safety and security. The realization of social logistics in the public sphere requires active state intervention and building of the necessary logistic structures at the national, regional and municipal level, the appointment of logistics specialists and the use of the accumulated experience in the sphere of business logistics.

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