

# Transportation logistics in the psychology of aviation of the XXI century

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**Abstract.** The article deals with the problems of transport logistics. The ways of the formation of innovative methods, the use of which helps to introduce progressive trends in the development of aviation in the 21st century, are analysed in details. The use of comparative analysis shows (emphasizes) that the transformation of aviation logistics practices occurs due to the rethinking of existing methods and the introduction of modern ones. Within the framework of professional research, the logical components of the thinking paradigm are considered as diverse model of mental practices, which is embodied in analytical and logistic methods of material processing, the use of which helps to form an assessment of Ukraine's capabilities to join the unified transport system of Europe. The logical analysis of the steps to adapt the recommendations of the European Commission necessary to bring the transport system of Ukraine to the European level uses the methods of mental psychology. On the basis of comparative analysis, it has been proved that transformations of mental models of psychological practices occur by rethinking the meanings of concepts that arise as components of transport logistics. A significant contribution to the process of its formation and reconstruction was created using the logistic tools of analytical practices.

## 1. Introduction

The relevance of the research topic is due to the fact that the issues of building an effective logistics strategy and the introduction of modern methods of managing business processes of an aviation enterprise are among the priority tasks of domestic economic science and practice.

Currently, transport logistics is implementing progressive methods into the functional complex of modern aviation enterprises, building an effective logistics strategy for obtaining balanced progress and significant competitive advantages in the field of logistics services in aviation in the 21st century. And a significant role here belongs to the psychological paradigm of solving this problem.

## **2. Literature review and problem statement**

Development problem transport logistics is reflected in research of many foreign and domestic researchers, such as D J Bowersox, M Nakano, O Kherbach, D Closs, M F Dmytrychenko, M Ustenko, V Dikan, R Larina, R Turlaev, V Kolodnijchuk, O Velychko and others [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11]. In works they investigated, the problems of transport logistics are associated with optimization of transport in logistics systems. However, the problem of managing domestic transport logistics and the determination of the prospects for its development has not been studied enough, which determines the relevance of the article.

## **3. The aim and objectives of research**

The purpose of the article is to identify problems and prospects for the development of the psychology of transport logistics in Ukraine, in particular, the psychology of air transport, which makes it possible to increase the role of this type of transport in solving social problems, ensuring business, cultural and tourist trips of the population, developing cultural exchange within the country and abroad. Air transport ensures the development of international economic relations, contributing to the implementation of mutually beneficial exchange between different countries. Historically, the formation of transport systems in various states was influenced by their geographic location, natural potential, climatic and landscape characteristics.

Today, the problem of human adaptation in completely new, in comparison with the one where he was born and raised, including cultural environment, as a result of the processes of globalization and international migration, is very relevant, therefore, issues of professional dialogue attract considerable attention. To solve this problem, logistics is an indispensable tool as a life tool to overcome the barriers of communication between representatives of different cultures, emphasizing the mental characteristics of the perception of the worldview. The problem at the moment is not sufficiently studied, therefore the main goal of our research is to study the symbolism of the system of cultural codes of the mental paradigm of the components of professional dialogue.

The world has changed, the time has come to speak the languages of foreign partners, taking into account the cultural standards of communication that are acceptable to them. The main goal of our research is to identify data to overcome barriers to interaction between representatives of dialogues of different cultures, highlighting the ways of intercultural communication in transport logistics. A person defines his perception of reality through the prism of verbal associations that are formed in a certain social, cultural, mental and linguistic space. M. Luscher compares the magic of the word with the magic of color, the magic of the logic of the word [12].

The changes taking place on the Earth and its territories emphasize the need for new methods in the system of searching for options for combining domestic and foreign ways of developing transport logistics. We consider the problem of defining the universal and national in the symbolism of the cultural component of the «way of thinking" and their role in the formation of transport logistics, which attracts considerable attention, but at the moment is insufficiently studied.

## **4. The method of the comparative analysis**

This work is a continuation of scientific research on the mental characteristics of the «way of thinking» by the method of comparative analysis. The object of research was previously studied on the basis of documents of the European Union. To determine the mental characteristics, let us consider the concept of nostalgia for the sky among people who have given their whole lives to this profession (from ancient Greek νόστος - a return to events with which professional memories are associated. According to Freud's conclusions, human existence is a special independent reality, «The key to understanding the world» [13].

Transport logistics is also a kind of key to defining the tasks of the aviation industry. Ukraine, located in the centre of Europe, has significant transit potential and is interested in making the

most of the opportunities for the development of the service market. The objective need for the economic development of the European Union in the 1990s was the opening of a single transport market, which contributed to a significant drop in consumer prices, which was combined with an improvement in the quality of services provided and a wider choice. Thus, the consumer habits of Europeans changed, which in turn led to an intensification of interaction and created additional incentives for the development of the aviation industry and other types of transport.

The largest number of railway transport enterprises operate in Germany and Italy, sea and air - in the UK. Ukrainian logisticians should pay attention to the EU transport policy. In addition to the program proposed in the White Paper, it is planned to implement a number of consistent measures at the national and local levels [14]. Of great importance for our country is the adoption of the so-called transport *acquis* (bringing the legal and regulatory body in the field of transport in line with EU standards).

For its implementation, the questionnaire method was used in the leading aviation universities of Ukraine. On the basis of the data obtained, which served as the basis for the design of situational tasks, the foreign method, known as «cases», was improved. The case method allows you to develop an algorithm for decision making, taking into account the diversity of mental models for adapting EU transport logistics.

Using the methods of comparative analysis and free associative experiment when working with different language groups, we obtained results, on the basis of which it can be argued that at the mental level, an individual «picture of the world» is inherent in each ethnic community and is reflected in the development of the economy, which should be taken into account in methods of transport logistics.

## **5. Transport logistics development algorithm**

For example, to correct the situation, identify problems and prospects for the development of transport logistics in Ukraine, special projects are called upon, such as «Agrokebet». The curriculum for this program is designed to prepare versatile professionals in the agricultural business. Transport is the cornerstone of this logistics industry. Aircraft, helicopters and balloons are used as air transport vehicles. The main advantages of air transport are considered to have high speed of movement, shortest routes and reliability.

The use of multimodal transport of goods by different modes of transport contributes to reducing costs and increasing the level of service. So, if the cargo on the way needs to be delivered in a shorter time, then it can be removed from the vessel at the nearest port and transferred to air transport.

Transport logistics in Ukraine has good potential. In the nearest future, we can take one of the leading positions in the export of grain crops, but this will require a developed infrastructure for delivering cargo to ports, which makes air transport a key element of the agricultural industry.

Thus, an important criterion that determines the approach to the formation of transport and logistics hubs is their belonging to the main transport routes. The multi - variety of mental models of adaptation of transport logistics consider each of these nodes as a multifunctional terminal commodity distribution complex, which combines transport, industrial, trade, financial and information flows, as well as the processing of goods with value increments, interaction of various types of transport. In our opinion, it is this approach to improving the transport complex of Ukraine that will optimize the minimum cost of service time. This, in turn, will lead to an increase in the capacity of national transport systems.

## **6. Qualitative and quantitative forecasting methods**

In the modern economy, methods that allow predicting the development of events in the future of the industry play a significant role. Distinguish between qualitative and quantitative methods. For example, qualitative forecasting methods include:

- «round table» – free exchange of opinions of people with opposite positions

- «Delphi Method» [15] ;
- «Grass roots»;
- Marketing research.

Thus, forecasts received from the divisions of the company are summarized and transferred to a higher level. The role of logistics in a modern company is the optimization and integration of forecasting system processes [13]. The TOP-10 countries in terms of the degree of development of the logistics system include Germany, Luxembourg, Sweden, the Netherlands, Singapore, Belgium, Great Britain, USA, Austria and Hong Kong. To improve Ukraine's position in the World Bank's Logistics Performance Index (LPI), it is necessary to implement a set of measures: both in terms of infrastructure and the search for new approaches to management, and in terms of automation of the logistics industry. Logistic strategy plays a big role here.

### **7. Results of the mental characteristics study logistics strategy**

The logistics strategy should contribute to the improvement of the entire economic activity of the company, influence the creation of a system that will improve the efficiency of material flow management. The main directions for the development of logistics strategies are:

- logistics outsourcing;
- logistics partnership;
- contractual logistics strategies and supply chain integration.

A logistics audit may precede the development of logistics strategy. In this case, it should be understood as a comprehensive check of the efficiency of logistics subsystems. The main role of a logistics audit in choosing a logistics strategy is to identify «problem areas».

The result of the audit of logistics systems carried out reveals the feasibility of certain projects related to the following processes:

- Reengineering of a logistics system or subsystem.
- Development of a strategy in terms of the logistic component of the structure.
- Formation of a system of regulation of logistics business processes.

The key task of the logistics strategy is to determine the indicators required to achieve the company's strategic goals, taking into account cost optimization. In all links of the supply chain. Mental models of logistic strategies use the main and additional lines. The English main line contains a «lean» and dynamic strategy, while the Ukrainian one prefers a strategy based on alliances or partnerships. The main goal of a «lean» strategy is to eliminate cases of unproductive use of resources.

In the course of implementing this strategy, companies perform the following steps:

- use more advanced technologies;
- analyse the operations performed and select those that add value to consumers;
- reduce links from the supply chain;
- choose the suppliers closest to the consumer.

A «lean» strategy is poorly implemented in uncertain, that is, dynamic conditions. The implementation of this strategy is possible only in a stable external environment. The main goal of a dynamic logistics strategy is to provide high quality services in an environment of changing requirements, therefore, companies that choose this type of strategy are consumer-oriented. Unfortunately, this strategy involves additional costs as a result of unplanned customer needs. This concept provides for a priority development scheme for two directions of dynamism:

- the speed of reaction to changes in external conditions;
- flexibility of operation

When developing a logistics strategy, a logistics plan is needed that takes into account all its structural elements. It should be structured taking into account the individual stages of the logistics strategy. This is the way in which logistics as a whole can achieve its goals by minimizing costs, optimizing time parameters, improving the quality and range of products,

flexibility in the volume of products offered, improving technologies, more convenient location, optimizing the balance of resource capabilities, costs and financial indicators, forming a strategy business, which makes it possible to improve customer service, this plan is consonant with the strategic planning scheme. We can say that the Logistics Strategy is one of the stages of logistics planning.

The mental model of the strategy takes into account the priority line of the direction of the organization's activities shows the most important stages of the supply chain, focuses on the multi-vector planning of strategic tasks. The development of a logistics strategy for an enterprise assumes the effective functioning of its activities in the future, being part of the corporate or functional strategy of the enterprise, regardless of changes in the environment.

The main goal of developing a strategy for the development of a mental model of any system is to determine the main directions of its further functioning based on the maximum use of scientific, technical, production, human resources and with the fullest consideration of the influence of the micro and macro environment.

The multi - variety of mental models when developing a logistics strategy allows you to take into account three factors:

- the mental environment in which business is conducted,
- individual competence of the organization
- a higher-level strategy.

Higher-level strategies take into account the context in which all logistics decisions are made. The mission defines the overall goals, and corporate and business strategies show how they are planned to be achieved.

The logistics strategy must work to support the higher level strategy. For example, if a business strategy provides for a higher quality of customer service, then a logistics strategy must find the optimal direction for solving this problem.

The mental environment includes factors that affect the logistics of a particular area of business, but which are difficult to fulfill. These include:

- 1) market conditions - size, location, stability;
- 2) technologies - currently available,
- 3) consumers - their expectations, attitudes, demographic characteristics;
- 4) stakeholder groups - their goals, level of support;
- 5) shareholders - their target approach to investment, goals, required profit;
- 6) competitors - quantity, ease of entering the market, strengths;
- 7) legal restrictions - professional restrictions, legal liability and labor legislation;
- 8) political conditions - stability, the amount of control by the authorities, relations with the authorities.
- 9) economic climate - gross domestic product, growth rates, inflation rate;
- 10) possible directions of development,
- 11) the pace of innovation;
- 12) social conditions - changing needs, a variety of consumers' mental lifestyles.

Each of the competing organizations operating in the same business environment can succeed if they have clearly defined competencies to differentiate themselves from their opponents. These competencies are defined by mental models of factors that an organization can control and use to differentiate itself from others.

The mental model of specific competencies is built on the assets of the organization, which include the following areas:

- employees - their qualifications, experience, creativity;
- organization - structure, relationships, flexibility;
- finance - capital, cash flows; financial stability;
- consumers - their requests, loyalty, sociability;
- products - quality, reputation, innovation;

- objects - power, age, reliability;
- suppliers - services, flexibility, partnership;
- processes - structures, technologies used, flexibility;
- marketing - experience, reputation;
- technology - currently used, planned, innovations

Mental models of logistics operations show that the environment in which the business is conducted and specific competencies show the position of the organization at present time and determine the strategies of a higher level - planning activities and the position held in the future. Forecasting a logistics strategy shows the transition of an organization from the current situation to activities in the future.

### **Conclusions**

Summing up, we can come to the following conclusion. The mental models of transport logistics show that there is no standard logistics strategy, since the diversity of companies and the differences in their operating conditions require an individual approach. However, there is a methodology and approaches that can be used to develop a company's logistics strategy, taking into account its characteristics and specifics. As part of the allocation of funds for the development of the transport network by the European Union, Ukraine has a chance to connect to targeted investment programs in transport infrastructure.

1. Geographical location of Ukraine allows developing services and increasing transit potential.

2. To bring the Ukrainian transport system in line with the requirements of the European Union, it is necessary to take measures to improve environmental, quality and safety standards.

3. The joining of Ukraine to the Trans-European transport network is possible if legal, economic and environmental legislative acts are brought into conformity with the European requirements.

Analysing the classic studies of this direction, we tried to identify the most progressive methods of transport logistics and outline ways for further developments in this direction.

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