SYSTEMATIC APPROACH IN THE STUDY OF AIR TRANSPORT SYSTEM

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The use of a systematic approach in our research makes it possible to perceive air transport as a set of elements that are necessary to ensure the continuous development of an integral air transport system in the event of their interrelated and interdependent functioning. The basic concept of a systematic approach to the air transport system as a process is the interconnection of parts or subsystems of an enterprise. This approach involves setting goals and focusing on building the whole as opposed to building components, stages, or subsystems.

Purpose: to substantiate the use of a systematic approach as a method of understanding the air transport system, considering its essence and the author's interpretation of the concept under study.

Methods: to achieve this goal, general scientific research methods were used, such as analogy, analysis, synthesis, systematization.

The aviation company, uniting a number of divisions that are in relations with each other and form a certain integrity, is an air transport system. Each division of the airline is guided by the interests of ensuring the safety of air transportation, solving its own production tasks: managing the airline, training personnel, training equipment, performing air transportation. In modern scientific and practical activities, the study of various aviation events is carried out from the standpoint of a systematic approach [1].

It means that:

Firstly, that the air transport system is provided not by any one element of the air transport system, but by joint efforts;

Secondly, if any aviation event occurs, its research should be carried out comprehensively and systematically.

Considering the systems approach, it is important to focus on the concept of a system. The system includes a set of elements that are in communication with each other and with the environment [2]. The system can be considered as a set of separate subsystems, and the system itself will be a subsystem of another, larger system. In our case, it will look like this:

A systematic approach to the air transport system is characterized by the fact that we consider these objects in their backbone connection with other objects and phenomena. The central concept in this approach is the concept of "air transport system". Air transport system: (whole, made up of parts connection) a set of elements that are in relationships and connections with each other, forming a certain integrity, unity. A collection of some elements, combined into one whole so that this whole acquires a new property that is absent from the elements separately. The principles of consistency: external and internal integrity, hierarchy. The system has an input, an

internal state and an output. When studying a system (using a systematic approach), two stages are performed: analysis and synthesis.

A systematic approach to the study of the air transport system can be achieved using a model that allows for a stepwise approach. It can be represented in the form of blocks (interfaces) representing various factors influencing the result of human activity and determining the amount of human error in the decision-making process, which is usually called the human factor. This model is called the *"SHEL model"* [3].

The algorithm of the research itself is a scheme containing components, the combination of which allows you to determine the tasks that need to be solved.

Define:

1. Area and directions of research;
2. Subject of research → object of research → subject of research; issue → objective → hypothesis (assumption) → objectives of the study and their decision ;
3. Conclusions and recommendations;
   Theoretical significance of the study ;
4. Practical significance of the study[3].

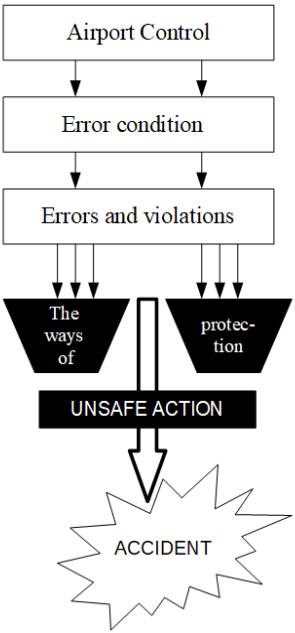

Fig. 1. A systematic approach to the study of the air transport system

An air transport system is a partially self-managed system with the following characteristics:
-"man-machine"system;
- able to choose the direction of activity, the responsibility for which can be distributed among the components of the system based on their functions;
- tasks and related activities should be distributed among the participants (components).

The main indicators for evaluating the functioning of the "man-machine" system are: implementation of the main and auxiliary functions; accuracy of operation; speed of operation; costs; reliability adaptability to the environment, the ability to maintain the system in working order, the possibility of permanent replacement of obsolete system components with new ones; safety of operation; optimal use of materials and the production process itself counting on this volume of production compatibility with other systems; easy management, taking into account social aspects, protection of the environment [4].

The air transport system in its primary link is considered as a group of mechanisms (airport, airline, etc.) that are serviced by operators (ATS). Each mechanism and its operator is a "man-machine" system of two interacting and interconnected units. If we follow the path of integration, we will come to the air transport complex - a complex system consisting of main and auxiliary workers, main and auxiliary installations, a system with a complex set of relationships, relationships and interests, has a complex structure and organization.

Using a systematic approach, it is possible to combine parts of a disjointed transportation process into one whole and achieve the order of the latter. Components of each system are components that exist at the lowest level in the hierarchy of subsystems. These characteristics affect the operation of the system, its speed, reliability, transportability, etc. When organizing transport systems, it is necessary to make a choice between a person and a machine, between different types of rolling stock, loading and unloading mechanisms, and people based on the characteristics and costs associated with their use [5]. Thus, to achieve the most important system property of air transport (meaning compatibility or harmony of subsystems), it is necessary to optimize the system as a whole, that is, the system approach.

References:

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