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KNOWLEDGE MANAGEMENT IN THE DIGITAL ECONOMY

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MIND MANAGEMENT OF ENTERPRISE HUMAN CAPITAL: LEARNING USING CONCEPT MAPPING

According to the level of economic development, modern society is usually defined as a post-industrial society, an information society or a knowledge society. This is due to the fact that the exponential growth in the quantity of processed information has led to qualitative changes in the economy and, as a consequence, in society as a whole. Most of the active population in developed countries are now engaged in the production, storage and processing of information, as well as its implementation in a structured form, i.e. in the form of knowledge. This is facilitated by the formation of global information infrastructures, thanks to which information becomes available to a wide range of users. Following honoring to the forecasts of experts from The Boston Consulting Group, it is expected that in 2020 approximately 25% of the global economy will switch to the use of digitalization technology.

An important aspect of the impact that the development and improvement of information and communication technologies have on society is the speed of changes taking place in the world around as a result of the implementation of these technologies. The digital economy is even considered as the basis of the Fourth Industrial Revolution, since the relationship between the change in basic technologies and the change in the technical and economic paradigm is clearly visible [1]. The implementation of the concept of a data transmission network, called the Internet of Things, made it possible

to quickly transfer data between physical objects [2]. Thanks to this, projects such as Connected Industry, Smart City, Smart Energy, Connected Health, Smart Agriculture, etc. are increasingly used and gain an increasing share of market.

The digitalization of production and management processes involves the automation of all internal processes of the enterprise, as a result of which a significant part of the personnel's duties is associated with the use of software. Due to the digitalization of the company's work processes, the productivity of its personnel is significantly increased. In turn, the successful use of innovation requires staff to constantly accumulate new knowledge and skills. In this regard, to ensure the competitiveness of the enterprise, it is necessary to carry out constant training and retraining of personnel. The personnel ceases to be just manpower, it turns into the human capital of the enterprise. Personnel knowledge management, improvement of its skills can be considered as mind management of the human capital of an enterprise. Thus, in modern conditions, the role of education is growing rapidly. Educational science and technology are becoming the main priority in building a country with strong economy [3]. Accordingly, much attention is paid to the development and implementation of new educational technologies.

One of the modern teaching methods which find their application in different fields of knowledge is cognitive mapping [4]. The purpose of our investigation is to study the possibility of using knowledge mapping technology to increase the effectiveness of training. In this work, the conceptual mapping method was used to visualize the basic concepts of mathematical models of optimization problems and methods for their solution. Such problems are among the most common type of mathematical problems that one has to face when finding the best choice in the process of solving typical tasks of economics and management.

The concept map is one of the meaningful tools of knowledge organizing which can be used for learning and teaching. Since mind management in essence is the management of information at the input (sorting and structuring this information) and output (representing its

structure, for example, in the form of a diagram or pictures), it is very convenient to use various kinds of learning maps for its implementation. A concept map which is a graphical representation of a problem and reflects an understanding of this problem can be successfully used as one of tools of the mind management. It should be noted that the main assignment of conceptual mapping is to streamline already acquired knowledge, its organization and embed new knowledge into this scheme. A good concept map clearly conveys key ideas and is characterized by the clarity and completeness of displaying the relationships that exist between concepts. Such a map is explanatory, not descriptive.

The concept maps can be used for implementation both the autonomous and the cooperative project. It is advisable to use both of these forms of work in the process of training and retraining of personnel. At the beginning of the training, to present the initial concepts, the trainer uses the learning maps that he has developed autonomously. In the process of training, its participants collectively develop their own map, which reflects their vision of the problem. The completion of the training is the presentation of the conceptual map, on which all training participants worked (united in groups of 3-4 people). It should be noted that the creation of such a cooperative map is preceded by a brainstorming session. In this case, the trainer participates in the discussion as a moderator.

Learning cards play a special role in displaying concepts that are interdisciplinary in nature, since in this case it is necessary to link together knowledge related to different fields. For example, concept maps can be effectively used in business analysis to store, generate and share knowledge between specialists in fields such as economics and applied mathematics. Figure 1 shows an example of a conceptual map that reflects ideas about the relationship between optimization problems in economics and methods for solving them, the choice of which is determined by the mathematical model of this problem.

The map shown in Figure 1 is an example of mapping the most general interrelationships between conceptual entities, which are the different domains of knowledge.

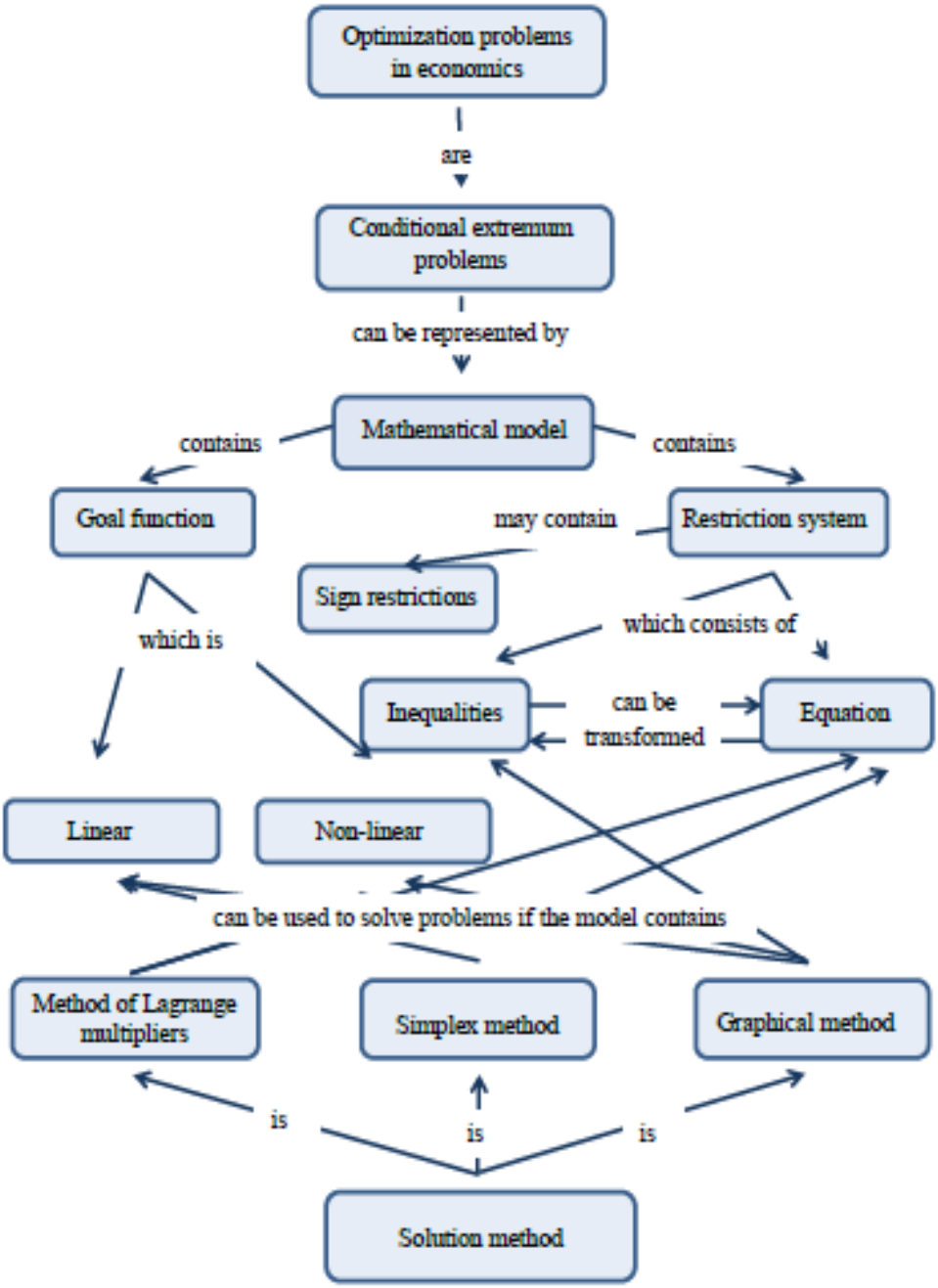

Figure 1. Concept map of mathematical methods employed for solving optimization problems

Such a conceptual map corresponds to the highest level of the hierarchy. If it is necessary, the elements of such a map can be detailed. For this purpose, for example, we can add mathematical formulas to describe each of the model elements and basic relationships describing methods for solving optimization problems.

Drawing up learning maps of various types and, in particular, conceptual maps, is an effective means of business training and can be used to train middle managers and top managers. Group work on such a map, one of the first stages of which is brainstorming, makes it possible to develop new strategies, new business concepts, etc. Mapping promotes development result-oriented creative initiative. During such training, an understanding of the very principle of composition of learning maps and skills in drawing them are acquired, which is subsequently advisable to use in professional activities to visualize meaningful relationships among business-concepts.

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