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## **LEARNING PROCESS AND KNOWLEDGE TRANSFER IN VIRTUAL ORGANIZATIONS**

*In modern business conditions, knowledge becomes an integral element of production, and knowledge management becomes a need for both top management and operational executives in everyday business activities. Organizations that are able to manage their overall knowledge in an optimal way, provide themselves with the capacity to establish leading competitive positions in the global market. The concept of organizational knowledge and knowledge management are crucial for virtual organizations. With its implementation, virtual organizations and all their members evolve into learning organizations. In this way, virtual organizations develop over time through organizational learning and thus achieve stable competitive positions in a changing global market.*

**Keywords:** virtual organization, knowledge management, education, learning, information technology

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## **ПРОЦЕСС ОБУЧЕНИЯ И ПЕРЕДАЧА ЗНАНИЙ В ВИРТУАЛЬНЫХ ОРГАНИЗАЦИЯХ**

*В условиях современного бизнеса знания становятся неотъемлемым элементом производства, а управление знаниями становится потребностью как высшего руководства, так и оперативных исполнителей в повседневной деловой деятельности. Организации, способные оптимальным образом управлять своими знаниями, обеспечивают себе возможность занять лидирующие конкурентные позиции на мировом рынке. Концепция организационных знаний и управления знаниями имеет решающее значение для виртуальных организаций. С его внедрением виртуальные организации и все их члены превращаются в обучающиеся организации. Таким образом, виртуальные организации со временем развиваются посредством организационного обучения и таким образом достигают стабильных конкурентных позиций на меняющемся глобальном рынке.*

**Ключевые слова:** виртуальная организация, управление знаниями, образование, обучение, информационные технологии

*Knowledge structure in virtual organizations.* Fundamental innovations in the production and distribution of information have led to revolutionary changes in modern society and the emergence of a new techno-economic paradigm based on information and communication technologies, in which information becomes the most important resource. The new techno-economic paradigm of information and communication technologies is based on the cheap input of information, obtained by advances in microelectronics and telecommunications technology. Information networking technology has experienced a quantum leap with the development of an international infrastructure of public computer

networks, which has enabled the expansion of the effective market reach and the emergence of the digital economy [1, p. 11].

The use of modern information and communication technologies in the economic sphere has enabled the commercialization of numerous activities and expanded the effective range of the market. In modern business conditions, the development of virtual (cyberspace) is increasingly left to the laws of the market, and the Internet is becoming the central production and control apparatus of a new, supranational market system [2, p. 50].

The concept of modern business is electronic business, which is based on business activities in the virtual space. The modern economy implies unlimited economic space by using computers connected to a network around the world. As a consequence of working in the global market and increasingly intensive computer networking, a new form of business is being formed, virtual organization and work with virtual teams in large business systems that are connected via computer networks to perform business activities [3, p. 493].

Virtual organizations are characterized by a pronounced problem of unique total knowledge due to the existence of different organizational entities that characterize different activities, technologies, systems, processes and structures. Therefore, it is necessary to establish a knowledge model that will be able to define a set of knowledge, which is necessary for a specific organization in a certain period of time, that is, which is necessary for a specific project on which the organization is engaged. Adequate competencies of employees are extremely important for the successful implementation of virtual organization projects.

Competency assessment is extremely important in gaining insight into the capacities of employees, their potentials and limitations in order to more accurately predict their individual and team success. This assessment is done when forming teams for the implementation of a project and when optimizing the organizational structure. The required competencies for certain types of work tasks may vary depending on the project objectives and leadership in the organization.

Virtual teams operate in conditions of great uncertainty and specific requirements of the virtual environment. Therefore, when forming a successful virtual team, special attention should be paid to the selection of its members on whom the efficiency of project tasks largely depends. Evaluation of competencies is extremely important in assessing the capacity of employees, their potentials and limitations in order to predict their individual success or the success of the team. At the same time, the whole concept cannot be imagined without competent managers who manage and develop virtual teams [4, p. 30].

The global operation of the market imposes that the current market is transformed into a virtual market space, and that the industrial economy is transformed into a knowledge economy. Today, it can rightly be argued that knowledge is imperative in achieving and maintaining the competitive advantage of organizations. It is the most valuable resource in the modern economy and the main determinant of profitability.

In modern business, the advantage will be those companies that learn faster than competitors, which make the most of their potential and successfully transfer the acquired knowledge of individuals to the organization as a whole, in order to effectively achieve the set goals. With the development of technology, the Internet, e-commerce and e-commerce, the market economy is moving towards a knowledge economy and adapting to end users [3, p. 494].

The result of the implementation of the knowledge model in a modern organization is an IT system that manages access to a set of organizational knowledge by all members of the organization, i. e. members of the virtual network. The knowledge management process should permeate all processes that take place within a virtual organization. The institutionalization of the concept of knowledge management in all segments of the virtual organization will inevitably lead to their change over time in

accordance with what has been learned, whereby the virtual organization as a whole will actually become a learning organization.

*Learning in virtual organizations.* Information and communication technologies have not only changed the internal form of the organization, but also the way potential clients and customers communicate, cooperate and coordinate their activities. With this in mind, you impose not only the need but also the obligation on organizations to make their business more efficient and to follow the new imposed requirements [5, p. 80].

Modern economy in which knowledge and information become a key resource for business success and in which dynamism and variability are a substitute for stability and static, imposes the need to change the «closed» business systems by creating space for openness and formation of organizations «without border». Virtual organizations represent a specific form of organization «without borders» whose existence is enabled by modern information and communication technology that facilitates business cooperation of companies.

Interconnected groups of companies, parts of companies and sole proprietors, with the help of information and communication technologies, cooperate through virtual organizations due to the need for a certain temporary or permanent business activity, while maintaining legal independence, but at the same time acting towards the market as a single business entity. The specificity of this connection is that these organizations base their entire business concept on the use of modern technologies, thanks to which their mutual cooperation does not have the spatial and temporal framework that can limit them [6, p. 2].

The issue of learning in virtual organizations comes down to the problem of how to integrate the partial knowledge and memory methods of individuals belonging to different organizations.

To solve this problem, the following are used: the concept of knowledge maps, skills-based management and the concept of transactional memory.

A. The concept of knowledge maps implies the presentation of individual and group knowledge through diagrams. It is a graphical representation of the information collected with interrelationships. Information can be in the form of text, graphics, models or numbers. For maps to be useful, they must be available to everyone at every organizational level and displayed in an appropriate form.

B. Skills-based management focuses on skills, competencies, profile descriptions by positions and jobs. This concept reveals the differences between the skills required for a particular job and the skills that the employee possesses. It also helps to understand the links between skills and business goals through measurable indicators, so that it is possible to give a more precise description of the profile by position in the organization. This concept has a better application than knowledge maps in non-multidisciplinary and task-oriented jobs.

C. The concept of transactional memory explains how people who are in a direct relationship exchange knowledge, coding systems, storing and using information. This concept has two main components: individual member memory and a transactional process that constructs and uses individual memories to make them available to all members. The transaction process begins when certain group members begin to learn something that belongs to other members' expertise. This concept can be described descriptively through directory sharing in computer networks and three key processes: directory updates (when people learn what otherwise belongs to someone else's domain of knowledge), information allocation (when new information is sent to the person to whose domain it belongs) information (when missing information is found from knowledge in similar domains).

Individuals who belong to one virtual organization must initially perform their jobs using already acquired knowledge and skills. Virtual organizations bring together individuals with compatible and complementary knowledge, who work together to fulfill a work task. The knowledge allocation function creates a knowledge map that collects different knowledge from individuals within the organization. When the knowledge map is initially constructed, the individual can notice the shortcomings and learn how to increase the individual memory, which is thus transferred to the organizational memory.

Creating a knowledge map takes place quickly in virtual organizations. Due to the nature of their business, individuals meet and exchange information about personal expertise in a short period of time. Thus, expertise acquires a relative character, because individuals are familiar with the knowledge of other people and have an idea of who to turn to when solving specific tasks. Also, when a new employee comes to a virtual organization, he is not included in the organizational memory. With the help of a transactional memory system, a person can identify their place in the social network, present their expertise and get acquainted with someone else's, as well as with the way a virtual organization works. The knowledge renewal function helps to discover what related knowledge is and where it is located. All this results in a higher speed of organizational learning [7, p. 207].

*Conclusion.* The concept of knowledge management is extremely important for the functioning and development of virtual organizations. This concept refers primarily to the implementation of a system that will coordinate the flow of information and the creation of a process through which individuals will be able to share and use knowledge. The purpose is for the organization to ensure maximum utilization of available knowledge resources. By implementing the concept of knowledge management in all organizational processes, a good basis is provided for the institutionalization of organizational learning within virtual organizations, thus making them learning organizations.

By establishing virtual organizations as a kind of learning organization, the level of their competitiveness in the market increases. Since virtual organizations are highly flexible organizational structures, adding a learning component to their activities encourages the ability of their adaptability to all changes in relevant environmental conditions.

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