INTRODUCTION

In the past, at the beginning of every human community, always two factors: labor and land cooperated with each other. A new form of ownership, which especially in our times is gaining importance not less than the ownership of the land, is the ownership of knowledge, technology and skills. The wealth of the industrialized countries is based much more on this kind of ownership than on natural resources. The ability to recognize in time the needs of other people and of systems of production factors most relevant to their satisfaction is another important source of wealth of modern society. Organizing cooperation of many people planning their time, take care to actually correspond to that, what it is for, and take necessary risks of today is a source of wealth of society. In this way, it becomes increasingly evident and decisive role of disciplined and creative human work and the role of initiative and entrepreneurship.

1 KNOWLEDGE AS A SUPERIOR VALUE

The main wealth of man is man himself. His intelligence and cognitive abilities, expressed in the scientific preparation allow you to discover the production capabilities, and various ways of meeting human needs. His disciplined work and solidarity interaction with others allows you to create an ever growing and ever more trustworthy work communities, having made the transformation of the environment and social environment. This process requires the involvement of integrity, industriousness, prudence in undertaking reasonable risks, reliability and fidelity in interpersonal relationships, courage in implementing difficult and painful, but necessary decisions for the company and work together to prevent possible disasters.

At the core of modern knowledge management system of the risk in the enterprise and the construction process should be a man of his wealth and nature, ideas and openness to change, which is the bearer of progress. Such a system should be analyzed and developed in the context of the environment and the knowledge economy.

By L. Edvinsson [2] intellectual capital or knowledge, experience, organizational technology, customer relationships and professional skills, are elements that will provide the company a competitive advantage in the economy with strongly shaped competition.

Post-industrial era is the era of the information society, which is characterized by large role of science, innovation and technological progress, which are the driving force of the economy, the important role of scientists in the occupational structure and permanent learning citizens.

Knowledge-based economy (KBE) becomes a symbol of our times. One of the features of KBE is globalization, which manifests itself, among others, unrestricted flow of knowledge and information. KBE is defined by the World Bank and the OECD as an economy based on education, innovation, whose production uses knowledge and information. The authorities of the European Union place great emphasis on knowledge as a driving force of the economy and development of the latest technologies. Particularly important for the economy are linking science and industry in the form of clusters, technological and industrial. Industrial cluster or otherwise: bunch, bunch industrial pole of competence is a group of companies, academic institutions or industrial organizations, located in a given area, associated with dependencies often informal. Focusing in one place knowledge, new technology, means of production allows the companies to achieve sustainable competitive advantage.

DUTKIEWICZ Maciej

Knowledge of the risk management system in the construction process
Industrial cluster concept was formulated by the American economist Michael Porter [4], and for her precursor is considered British economist Alfred Marshall.

A common feature of the trends occurring in the developed economies, such as deindustrialization, globalization and reengineering, understood as changes to business processes in order to achieve maximum efficiency while reducing costs is the increasing dependence of organizations from intangible elements, such as human intelligence and creativity. An increasing share of consumer spending is associated with the payment of services and intangible goods including R & D, design, marketing.

Finding and implementing effective solutions in managing the organization serves, among others, Improving Business Processes (Business Process Improvement), used as a solution less "revolutionary", introducing changes in an evolutionary manner, including in the process of changes both management and employees. An example of the technique developed especially in the areas of production management is Six Sigma.

Change processes occurring in KBE should be monitored and diagnosed permanently, due to the rapidly changing economic environment. Analyzing and assessing the changes taking place in KBE you can use concepts of structural (sectoral) – basing on separation of specific sectors of the economy identified with the development of KBE and holistic concepts,

taking into account the broad aspect of the change, seen both in the economic, technological and social spheres as well as their interactions. Within the concept of structural KBE is determined by the level of production or employment for example. sectors of high-tech or IT, including activities for the production, use, preservation, collection, storage, transmission, and transfer of information. Sectoral concepts of measure of KBE include distribution of industries and services provided by the OECD and Eurostat.

Holistic concepts refer to the concept of sustainable development, in which equal importance is attributed to aspects of environmental, social and economic. There are indicators describing the operation of the various socio-economic dimensions.

The concepts of measuring the KBE include: KAM methodology developed by the World Bank, the concept of SINE proposed by Eurostat and the European Commission and the OECD concept of measuring knowledge.

KAM methodology (Knowledge Assessment Methodology) was developed under the program The Knowledge for Development (K4D) and belongs to the holistic proposals. It contains dozens of variables for determining the level of development of the knowledge economy. Used indicators have been grouped into four categories defining pillars of the knowledge economy: education and human resources, innovation system, information and communication technologies (ICT), economic incentives and institutional regime.

Educated society creates and uses knowledge.

Innovation system, built by companies, research centers, universities, consultants and other organizations can join the global body of knowledge, adopt and adapt it to local needs, and create new technology.

In contrast, information and communication technology facilitates the effective creation, dissemination and processing of information.

Economic and institutional regime provides incentives for the efficient use of existing and new knowledge and the development of entrepreneurship.

They are used special indicators describing the overall functioning of the economy, to assess the extent to which knowledge is currently being used for socio-economic development.

Using the methodology of KAM can specify two aggregate indicators describing the level of development of KBE: Knowledge Economy Index (KEI) and Knowledge Index (KI).

KEI is the average of all four pillars associated with the knowledge economy. KEI index takes into account also the fact if the environment fosters to the effective use of knowledge for economic development, and therefore aims to show the general level of development of the country in the direction of the KBE. KI index measures a country's ability to creation, adaptation and diffusion of
knowledge and is an indicator of the overall potential of knowledge. It is the average of the normalized variables of the three pillars: education and human resources, innovation and ICT system.

Variables from pillar innovation system are available in two versions: in absolute terms and in terms of the number of population of the country, which means that the indicators KI and KEI are respectively available in the unweighted and weighted versions.

By analyzing KBE and diagnosing information society the flow of information and knowledge is taken into account. Knowledge allows you to equip a manager in the elements needed for specific tasks.

Knowledge in the enterprise can function as explicit knowledge in the form of documents, data, reports, or as tacit knowledge in form of experience of employees. Taking into account the interests of the company knowledge can be divided into free knowledge and protected knowledge. From the point of view of destination knowledge can be divided into management skills and technical knowledge. In the enterprise, as well as in the information society, openness to knowledge and sharing knowledge are particularly important for workers. Standards in effect in the group with ties to members of the community are the social capital. Intellectual capital is the sum of knowledge possessed by the people forming the organization.

The intellectual capital consists of staff capital or knowledge of workers, structural capital, which includes systems and processes certifying adaptation to the requirements of the market, capital market, which takes into account the value of the company in the context of relationships with contractors. Development of intellectual capital in the organization largely depends on the environment there, the motivation created by every employer, encouraging employees to share knowledge. The flow of current knowledge between employees and the greater resources of knowledge binding with changes in generational workforce is essential for the proper functioning of the organization, characterized by consistency and continuity.

2 MODELING MANAGERIAL KNOWLEDGE

Managerial knowledge is the knowledge accumulated in the enterprise as knowledge of workers, structural and market capital and the knowledge accumulated in databases and data sets. The process of formation and functioning of knowledge in the organization includes the following steps: acquisition of knowledge related to the discovery, acquisition and creation of knowledge, dissemination of knowledge and integration with existing knowledge, knowledge exploitation, withdrawal of knowledge.

Managerial knowledge can be derived directly from the people, may be included in databases, knowledge bases, data warehouses, web pages. Knowledge can be stored in paper or electronic form. Knowledge can be either numerical summaries, resource, finance or accounting. It is the knowledge of workers employed in the enterprise, domain knowledge related to the business of a company, for example: production, trade, advertising and marketing, procurement, planning, design and sales, human resources, etc..

It is the knowledge of the designer, estimator, construction manager, the person responsible for health and safety on site. Only compiled knowledge from different departments and disciplines allows for comprehensive grasp of knowledge, knowledge of risks, inference and search for the best solutions, burdened with the least risk of failure.

Knowledge can be obtained from databases, data warehouses, which are part of the Business Intelligence (BI). BI is a tool for managers and professionals involved in the analysis and strategy. For "linear" managers who want information about the current state of processes there are designed solutions of business activity monitoring (BAM), allowing for processing of incoming data on a regular basis. Presentation techniques are selected according to the needs of the user. The most common variety of systems belonging to the BI are:
- EIS - management notification systems (Executive Information Systems)
- DSS - Decision Support Systems
- MIS - management support systems (Management Information Systems)
– GIS - Geographic Information Systems.

Knowledge available on the Web meets with growing interest. This is due to the availability of this knowledge and more precise systems of its search. This enables the use of agent programs that are part of the artificial intelligence and enterprise portals as a place from which the knowledge, services, software are provided to authorized users.

Due to the range of support of management decision support systems there can be distinguished: decision support, information management, knowledge base, accounting and reporting. Due to the audience for which they are created, management systems can be divided into dedicated systems and general. Dedicated systems are used in manufacturing or service companies. General systems are created for a broad audience and include modules: financial, accounting and logistics. Management support systems were created as a result of evolutionary change: from systems serving the areas of inventory management - IC (inventory control), manufacturing - MRP I (resource management planning), MRP II finance, distribution, transport, maintenance - ERP (enterprise resource planning), the systems supporting implementation, modeling and optimization of processes - DEM (dynamic enterprise modeling) and multi-agent systems - MAS, allowing for solving distributed and computationally problems. MAS have been used mostly in the production management systems. In the literature there is often encountered the name of systems of software agents, that are finding increasing use, including e-business.

In each organization area of business processes is different. Effective management approach must take into account the specific nature of the organization, therefore there is no universal concept of knowledge management. The development of a knowledge management system is carried out in the following stages: creation and management of databases, information management, knowledge management, concepts management and directing and stimulating activities of knowledge workers.

3 ASSUMPTIONS OF KNOWLEDGE MANAGEMENT SYSTEM IN CONSTRUCTION COMPANY

Knowledge management stems from factors of an internal (within the organization) and external factors (contractors, customers, business environment).

The main constraint for the development of proper knowledge management is a close link between knowledge of specific units of the organization, while for the rest of the organization knowledge is not available. This phenomenon in management is called "viscosity of knowledge" (sticky knowledge). The role of properly functioning knowledge management system is elimination of this type of phenomena. Gabriel Szulański [5] and Dobija [1] considers that barriers to knowledge development in an enterprise related to the viscosity of knowledge due to the natural reluctance to share knowledge and its limited absorption by people who are looking for this knowledge.

Elements of model of knowledge management in a construction company in relation to particular specialties, industries, such as construction, installation, power supply can be: knowledge management strategies and its transfer to the outside and to the inside, organizational forms, information management and its archiving, workflow management, organizational culture, technological tools to improve and facilitate the transfer of knowledge. In every organization, this model may look different, taking into account the specific nature of its activities. It can be freely expanded and refined.

An important aspect of knowledge management is to implement the model. The best results are achieved when the model is introduced in parallel in all processes of knowledge management, running at the same real time.

Management includes classic features consisting of planning, organizing, conduction, directing and controlling, also in terms of knowledge creation, codification, and transfer. Transforming quiet knowledge of worker must be done taking into account the objectives of the organization as a whole and its individual knowledge workers and a team of employees [3].
4 THE ORGANIZATIONAL STRUCTURE OF THE CONSTRUCTION COMPANY, PEOPLE AND TECHNOLOGY AS AREAS OF KNOWLEDGE MANAGEMENT

In the process of knowledge management in modern building organization, operating under varying external conditions a very effective solution is to use an organic model. The organic structure means a flat structure, informal and decentralized organization that facilitates the flow of information and significantly reduces the decision-making procedures.

In contrast to the bureaucratic model, organic model is characterized by a bottom-up procedure operation, high level of expertise of employees, flexibly defined areas of activity of individual employees depending on the specific purpose, the liability of employees for the results, a small number of formal rules and a small degree of centralization of power.

Another characteristic model of the organization with modern operation is a model of process organization in which economic processes and not rigid procedures are the basis for the selection of participants of project, members of interdisciplinary teams, broad-minded action and broad accountability. The principle of operation of such an organization adapts to the situation. The investment activities related to the implementation of building structures, the performance of the installation process, not every process follows the rules previously scheduled. The main reason is the lack of execution of designed solutions or violation of the regime of time of completion. In this case, the decision maker, which is, for example construction manager, site manager, or other person responsible for the front of work is faced with the decision to terminate the replacement. The decision maker who has the requisite knowledge is able to decide to terminate the replacement, provided this does not exceed its powers and does not require confirmation or verification by a qualified designer. With the progress of life, the development of technology and economic structures of the organization become more flexible and focused on continuous adaptation subordinated to goals. This is followed by departure from the rules of strict specialization, a complex hierarchy, formalization of the centralization of power.

CONCLUSIONS

In the paper issues that are important for operating the bridges, and which come from negligence at design, construction and the maintenance stage of bridges are presented. Factors that affect an repair costs, expensive renovations and also contribute to traffic problems is drainage systems, which in many cases are done wrong and are repaired only when the damage from poorly drained water has already caused visible destruction of the bridge.

Abstract

In the paper modern look at aspects of knowledge management of the risk in the construction process is presented. The author has applied a multi-faceted approach paying attention to the organization of construction that operates in variable external conditions. The paper presents several models of knowledge management and practical tools to improve the operation of the organization.

System zarządzania wiedzą o ryzyku w procesie budowlanym

Streszczenie

W artykule przedstawiono nowoczesne spojrzenie na aspekty zarządzania wiedzą o ryzyku w procesie budowlanym. Autor zastosował podejście wieloplasczynowe zwracając uwagę na organizację budowlaną działającą w zmiennych uwarunkowaniach zewnętrznych. Przedstawiono kilka modeli zarządzania wiedzą oraz praktycznych narzędzi usprawniających działanie organizacji.

BIBLIOGRAPHY

1. Dobija D., Pomiar i sprawozdawczość kapitału intelektualnego w organizacjach działających w „Nowej Gospodarce”, Organizacja i Kierowanie 2004, nr 1 (115)