

**ЕКОНОМІКА ТА УПРАВЛІННЯ НАЦІОНАЛЬНИМ ГОСПОДАРСТВОМ**

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**O. P. Kyvliuk**, Doctor of Philosophy Sciences,  
Senior Scientific Researcher,  
**A. V. Sakun**, Doctor of Philosophy Sciences,  
Associate Professor

**O. П. Кивлюк**, д. філос. н.,  
ст. н. с.,  
**A. В. Сакун**, д. філос. н.,  
доцент

**KNOWLEDGE ECONOMY AS AN INTELLECTUAL RESOURCE OF KNOWLEDGE MANAGEMENT THEORY****ЕКОНОМІКА ЗНАНЬ ЯК ІНТЕЛЕКТУАЛЬНИЙ РЕСУРС ТЕОРІЇ УПРАВЛІННЯ ЗНАННЯМИ**

**Urgency of the research.** The importance of studying the problem of intellectual resource of economic knowledge and management of it caused by necessity of the global economy development.

**Target setting.** The transformation of knowledge in cognitive assets primarily of economic activity poses the problem of revealing the substantive dimensions of knowledge as intellectual resource.

**Actual scientific researches and issues analysis.** The problem of knowledge as an intellectual resource for the economy in the context of management was researched by L. Belova, U. Bukovych, H. Kleiner, P. A. David, D. Adrissen, B. Z. Milner, V. A. Makarov, S. Hal'chyn's'ky, P. Drucker and others.

**Uninvestigated parts of general matters defining.** Scientists have not studied the knowledge management strategy, which in terms of the dynamics of global change is an indication of the growth potential of the economy, businesses, entire social system.

**The research objective.** The article reveals the basic substantive parameters of knowledge as an intellectual resources and knowledge management in economic activity.

**The statement of basic materials.** Efficient use of knowledge, the ability of its implementation in new products and services has turned into a key factor of welfare, and into the main condition of the information society development. Understanding the role of cognitive resource for the economy, business, and enterprises highlighted the importance of the theory of knowledge management (knowledge management - KM). Complex structure of knowledge management theory is shown, different approaches to identify its nature are characterized. It is proved that combining "knowledge infrastructure", "culture of knowledge", "knowledge technology", the theory of knowledge management ensures efficiency and innovation of economic activity.

**Conclusions.** The productive economy development and business in the global world depends on the level of knowledge and information, which must be able to manage. Theory of Knowledge Management is an intellectual resource of economic activity and has two main objectives - efficiency and innovation.

**Keywords:** knowledge; intellectual property; knowledge economy; knowledge management; business; system; technology.

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**Актуальність теми дослідження.** Важливість вивчення проблеми інтелектуального ресурсу економічного знання та управління ним обумовлено необхідністю розвитку глобальної економіки.

**Постановка проблеми.** Перетворення знання в когнітивний актив насамперед економічної діяльності ставить проблему виявити його змістовні виміри знання в якості інтелектуального ресурсу.

**Аналіз останніх досліджень і публікацій.** Проблему знання як інтелектуального ресурсу для економіки в контексті управління досліджували Л. Белова, У. Букович, Г. Клейнер, П. А. Давід, Д. Адріссен, Б. З. Мільнер, В. А. Макаров, С. Гальчинський, П. Друкер та ряд інших.

**Виділення недосліджених частин загальної проблеми.** Науковці недостатньо дослідили стратегію управління знаннями, яка в умовах динаміки глобальних змін є показником потенціалу зростання економіки, бізнесу, всієї соціальної системи.

**Постановка завдання.** Стаття присвячена виявленню основних змістовних параметрів знання в якості інтелектуального ресурсу та управління ним в економічній діяльності.

**Виклад основної проблеми.** Ефективне використання знань, здатність їх впровадження в нові товари і послуги перетворилось у найважливіший фактор якісного добробуту та головну умову розвитку інформаційного суспільства. Усвідомлення ролі когнітивного ресурсу для економіки, бізнесу, підприємства виокремило значимість теорії управління знаннями (knowledge management - KM). Показана складна структура теорії управління знаннями, охарактеризовані різні підходи до виявлення її сутності. Обґрунтовано, що поєднуючи «інфраструктуру знань», «культуру знань», «технологію знань», теорія управління знаннями забезпечує ефективність та інноваційність економічної діяльності.

**Висновки.** Продуктивний розвиток економіки і бізнесу в умовах глобального світу залежить від рівня використання знань та інформації, якими потрібно вміти управляти. Теорія управління знаннями (KM) постає інтелектуальним ресурсом економічної діяльності і спрямована на вирішення двох основних завдань – ефективності та інновації.

**Ключові слова:** знання; інтелектуальний ресурс; інформація; економіка знань; управління знаннями; бізнес; технологія.

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**Urgency of the research.** A space of knowledge was shaped throughout the period of the human society formation. An important role in knowledge development as a product of human mental activity was played by trade and market organization of production, which required increased volume of information on the product, delivery terms, exchange, and market sale for entrepreneurs working in the market. In the modern era the global economy and business development increasingly depend on the ability to obtain external information on time and ability to handle the internal information – as data embodied in facts and knowledge included at various levels in laws, regulations, policies and theories. The absolute role of knowledge in shaping the intellectual arena transforms it into the most important resource of modern civilization development.

**Target setting.** Production, distribution, exchange, and use of knowledge constitute the basis of the economy, since human activity in this area becomes mainly a source of public wealth and its intangible assets. These include primarily semantic completeness of knowledge, which transforms it into a cognitive asset of not only socio-cultural, but above all scientific, industrial and economic activities. The problem arises to identify the main comprehensive measures of knowledge as an intellectual property, which is the basic condition for economic process development, not only the basis of modern technologies, but also knowledge management strategy.

**Actual scientific researches and issues analysis.** The issue of economic knowledge was extensively covered in the scientific literature. Methodological research basis on the economic knowledge issue include works by F. von Hayek, G. Kleyer, P. A. David, D. Adrissen, R. Thyssen, B. Z. Milner, V. A. Makarov, etc. The scientific quests by V. D. Bazilevich, V. G. Kremen, V. P. Andruschenko, O. I. Zilinska, S. V. Prolyiev and several other national scientists provide a broad analysis of the knowledge role in general and economic one in particular, both in the “knowledge society” development, and information technologies creation as well, that change fundamentally the structure of the social, cultural and economic life. The main focus of studies conducted by U. Bukovych, R. Williams, T. Andrusenko, L. Hryhoriev, E. Popova, L. Belova, T. Havrylov, F. Debor and others is the issue of knowledge management.

**Uninvestigated parts of general matters defining.** However, the knowledge economy issue as an intellectual resource in knowledge management has not found its adequate clarification. However, the knowledge management strategy is increasingly coming to the fore in the situation of the widespread introduction of information and communication technologies. With the rapid global changes, the knowledge management increasingly provides adaptation and preservation of competencies and is an indicator of potential growth and business development, reflecting the level of knowledge management in the company.

**The research objective.** Given the theoretical achievements in addressing the knowledge economy and its role in the development of science and technology, the “knowledge society” in general, a relevant task is to identify the main substantial and semantic parameters of knowledge as an intellectual resource of knowledge management strategy in economic activity, its purpose and methodological contents, identify the main crossing points of the “knowledge control” theory with the concept of “knowledge management”.

**The statement of basic materials.** The efficient use of knowledge and its introduction in production of new goods and services has become a main condition for the information society development. The factor of knowledge increases to a much greater extent during the period of “knowledge economy” establishing. Actually, the “knowledge economy” occurs when knowledge becomes a market commodity. However, the knowledge market is much more complex entity than the traditional market. It requires such institutions, which are not necessary for the traditional market functioning. Moreover, knowledge is a specific commodity that requires, first of all, the ability to manage it.

Today, the widespread introduction of information technology has united the world into a single network, due to which the macro-level knowledge ceased to be a traditional advantage of the advanced economies only and obtained an access to the global representatives (actors) able to manage this powerful resource. With knowledge role increase at the micro level as a company strategic re-

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source the strategies relevant to the information society – such as customer relationship management (GRM), total quality management (TQM), business process reengineering (BDR), and others – become irrelevant. The knowledge management strategy comes to the fore more definitely depending on the already achieved level of information society and knowledge society formation [1, p. 97].

In terms of the global change dynamics, reducing geographical distances and attachment to a given structure of organization the knowledge management increasingly provides adaptation and conservation of skills. Increased attention to the “knowledge management” issue is due, firstly, to the awareness of the cognitive-intellectual resource role for the economy as a whole and individually for the company; and secondly, the ever-increasing volume and diversity required for managing information that is difficult to comprehend [2, p. 36].

Analysis of the strategic management genesis showed the dominating number of theoretical approaches: first, the “strategic positioning theory”, according to which the strategy development was focused on market research and industry structure (e.g., “Z Theory” by William Ouchi, Model “7-C” by T. Peters and Robert Waterman); secondly, the concept that defines the internal resources of organization as the real factors of competitiveness, including implicit and explicit knowledge; thirdly, the “resource theory”, which now occupies a leading position, focusing on the study of human resources, intellectual capital and knowledge rather than material resources [3, p. 645-646]. The role of internal factors of success increased with the development of more advanced concepts of total quality management, business processes reengineering of the organization that undergoes training. As a result of differences in the global business leading companies’ organizational structure, a theory emerged of the “Knowledge Management”, which is characterized by interdisciplinarity and rapid growth.

Development of the knowledge management theory (knowledge management, KM) in Ukraine is at the early stage, while in the leading Western countries, it is one of the key concepts of management that support the modern theory of economics and business. Along with such management concepts as “process approach”, “total quality management”, “business processes improvement”, “e-commerce and business”, “methodology of Balanced Scorecard”, “Information Portals”, the current knowledge management theory of the advanced countries has a firm belief established that under conditions of the permanent increase in share of “hidden property” (knowledge, intangible assets) in the cost of goods and services, the role increases of effective KM. It is “a pass to the leadership”, mainstream technology, that is a key technology which determines the paradigm of management in general. At that, the main function of knowledge management is not in cost reduction, but in significant enhancing of competitive advantage for companies and entire economy [4, p. 14-18]. Only this KM interpretation can explain the role of knowledge management as a key technology that determines the management paradigm.

The real importance of knowledge management in today's world can be understood while examining the evolution of the management basic concepts aimed at searching for the “roots of success”. The concept considers the “financially oriented management” as an initial base that has existed for a long time in the “producer market” era. It was replaced by “marketing management” in the transition to a “buyer's market”, where the marketing became the defining idea of management. The marketing management gave place to the “quality management”, which provides for business forming based on the idea of quality, including the quality of the organization and process improvement to meet properly the identified customer needs. The transition to the “knowledge economy” and “knowledge management” occurred with the start of basis search for the more accurate and quicker identification of customer needs as well as optimal organization of business processes [1, p. 98].

Note that objectives, indicators, and tasks in the field of knowledge management are at a deep level, creating a solid foundation for company success. In general, KM is a scientific discipline that provides an integrated approach to the creation, collection, organization, use of the enterprise's informational resources and access thereto. These resources include structured databases, textual information, implicit knowledge, and expertise held by the employees. KM is a new “business process” to manage company's intelligent assets, which is determined by the following parameters: relation with

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business strategy, organizational culture and discipline, ability to “transparency and clarity” of business processes and production relationships, ability to measure competitors, buyers and suppliers [3]. According to Gartner Group, a useful analogy to explain the KM role is to consider this process as similar to the company financial management [4].

According to the definition of International Data Corporation, KM is a formal process which involves the assessment of organizational procedures, people and technology and system creation that utilizes the relationships between these components in order to provide the required information to the right people at the right time, leading to increased performance [5]. According to PC Week / QE knowledge management is a technology that includes a set of formalized methods, covering the search and retrieval of knowledge; their structuring and systematizing to ensure convenient storage and retrieval; knowledge analysis to identify analogues and dependencies; knowledge update, dissemination and generation of new knowledge. The overall objective of the knowledge management is considered as: management purpose, management methodology, which involves extracting knowledge both from the databases, and thinking individuals as well, and knowledge dissemination, including specialized knowledge “pumping” into the employees’ “heads” [4, p. 41-42].

The knowledge management process involves a number of aspects, each of which highlights one or another trend: first, KM appears as a new scope of institutional mechanisms, management techniques and economic incentives that generate real competitive advantages of the companies; second, systematic, accurate and circumspect formation, renewal and use of knowledge as intellectual resources management in order to maximize the efficiency of the company and return on assets, based on knowledge; third, formalization and access to the practical experience, knowledge and expertise data as a management object, which create the opportunities that promote activities improvement, stimulate innovation and increase consumer costs.

Given that isolated aspects constitute the essence of KM, we consider it necessary to give the following definition: Knowledge Management is a new cross-functional discipline and new kind of management activities aimed at the intensive use of intellectual assets as the main resource of the knowledge economy and stimulate innovation in order to maximize the efficiency of the economy and individual enterprises and formation of these basis of real competitive advantages, both nationally and internationally.

Authors, who use the “knowledge management” term, distinguish different levels of knowledge management at each level of cognitive economy. Thus, there are: knowledge management microeconomics; knowledge management macroeconomics; knowledge management nanoeconomics, which examines the laws of emergence, perception and knowledge transfer “from person to person” [5, p. 62].

In terms of “knowledge control” theory, some researchers isolate the concept of “knowledge management” [6]. From their perspective the “knowledge management” refers to a purely functional task – systematic information management. The tasks of Information Technology (IT technologies), rather, information management, if the KM strategy focuses on “objectified knowledge” [7], or human resource management tasks (NRM), if the focus is on the human factor [7]. Typically, the company determines the balance between these technologies.

In accordance with the views of the authors from this group the “knowledge management” was not initially associated with information technology. The aim of KM was to create techniques for optimal use of intellectual potential of company employees. That was also when the “knowledge” was recognized as an economic category, “success factor”, and only after a while the information technology appeared to work with them. “Knowledge Management” in terms of business development strategic perspective involves the awareness and allocation as a “management object” of everything, the company knows and knows how, before others do, in obtaining benefits by isolating or creating favourable opportunities, not figured out by others. KM competitive advantages can be achieved through knowledge “transfer” into valuable meaningful recommendations for use in practice. Knowledge can be used to predict the behaviour, regulate relations and processes that may become more effective

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after the application of knowledge management. Therefore, the “knowledge management” (or management based on knowledge) is defined as the task-oriented organization of company activity, where the knowledge is considered as a major strategic factor for success. Knowledge management is just an important part of this global objective [6].

Despite the relative KM theory novelty, there are several doctrines that describe this concept from different angles. Despite the obvious knowledge management goals, the range of tasks offered by various authors of publications and advisers for knowledge management, is remarkably varied and ambiguous [8]. Examples of different approaches to formulating knowledge management tasks are given in Table 1.

Table 1

**Approaches to define KM tasks**

<i>K. Witt's methodology</i>	<i>Excalibur Technologies methodology</i>	<i>PWC methodology (W. Bukovych, R. Williams)</i>
1. Activity diagnosis and evaluation 2. Knowledge diagnosis and analysis 3. Action sampling and planning 4. Actions: a) knowledge development; b) knowledge dissemination; c) knowledge combination; d) knowledge integration.	1. Access / search 2. Collaboration 3. Innovation 4. Creation 5. Implementation 6. Evaluation 7. Improvement 8. Preservation	A. Tactical processes: 1) obtaining knowledge; 2) using knowledge; 3) training; 4) knowledge dissemination. B. Strategic processes: 1) evaluation of intellectual capital; 2) IC creation and maintenance; 3) knowledge assets liquidation.

**Sources:** T. A. Gavrilova, D. V. Kudriavtsev, Ye. V. Tulugurova Knowledge management system // Materials of advisory and implementing company. – <http://big.spb/publications>

The first approach is called personifying or intuitionistic or managerial. It is based on the fact that people (experts) possess the knowledge and it is required from knowledge carriers to maintain and share knowledge. The main thing in KM is a qualified staff, their motivation, communication, and technology is mere infrastructure. There is no sense to develop technology where no corresponding culture is achieved, including knowledge-based [2, p. 36-41].

There is no point to set the global objectives, which require sufficient resources, but start with the obvious and easily accessible. This approach, which is called “management approach”, focuses on the effectiveness of system application, i.e. staff training, holding appropriate events, tracking new needs, and eliminate unnecessary functions, establishing a kind of corporate information culture [2, p. 41-42]. The main objective of knowledge management with this approach is the identification, preservation, and efficient use of employees’ knowledge.

The second approach is called information or process approach [4, p. 69]. It is based on the fact that modern enterprises have accumulated a huge amount of data about customers, suppliers, operations, which are stored in dozens of operational and transactional systems in different functional units. To process and analyze these data to provide accurate information a system is required represented by KM. The bases of the process approach in KM systems implementation involve the emphasis on computer technology (IT) [5].

The introduction of modern technologies (managerial or informational) aims to obtain benefits, not to reduce costs. Neither the first one, nor the second approach meets understanding of KM as a key technology that determines the paradigm of management in general. This led to the necessity of forming a third approach regarding KM. In addition, following each of the above two approaches can bring some benefits for the company, but will fail making knowledge the main value adding factor.

Converting the knowledge into a key resource of the company provides for integration of the above approaches and taking into account all aspects of knowledge management that cover multiple aspects of management. Today, the foreign economic theory developed several ways to define these aspects

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that differ both in design and detail level as well. If we use the conceptual model of knowledge management proposed by S. Gallagher [9], we obtain a model, which defines three interrelated components – knowledge culture and culture technology, knowledge infrastructure.

The “knowledge culture” component (KC) provides that the companies engaged in KM should ensure cultural environment that would promote knowledge sharing. Creating the knowledge culture includes awareness of the importance of human role as knowledge carrier and motivation of people interested in sharing knowledge [9].

The “knowledge technology” component (KT) includes basic technologies that support KM, including the study of texts and data (data mining / text mining) – image recognition, highlighting meaningful regularities from data; document management system – preservation, indexing, layout and publication of documents; means for collaboration – Internet, synchronous and asynchronous conferences; corporate portals of knowledge; tools that support decision-making (decision support) – expert systems, which support discussion groups, etc. For practical application the given conceptual model of knowledge management is advisable to detail in the context of knowledge management that you want to bring to the fore [10].

The third approach followers believe that in order to understand KM true significance in modern business, it should be considered in terms of the basic management concepts evolution sequentially varying each other in recent decades, as well as the overall management system at the enterprise. Each new concept didn't abolish the previous one, but supplemented it positioning in accordance with a new situation in the business environment, while the emergence of new concepts was accompanied by the in-depth search for the “roots” of success. The concept interchanging was directly reflected in such company management technology as the Balanced Scorecard [1, p. 107]. The sequence of KM implementation is in line with the general concept of business engineering as a modern management core technology.

**Conclusions.** The “Knowledge Management” theory – KM is aimed at identifying the “knowledge economy” intellectual content and addressing two main objectives – efficiency and innovation. The ability to complete the first task through KM is achieved through the use of knowledge for performance growth due to the increased quick action or costs reduction. The completion of the second task involves the creation of new products and services, new businesses and new business processes, while any exchange of knowledge can lead to innovation. The proposed approaches to KM and its components definition (“knowledge infrastructure”, “knowledge culture”, “knowledge technology”) constitute the intellectual basis of modern economic and business management.

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