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CLASSIFICATION OF TECHNOLOGIES FOR MANAGING THE INTELLECTUAL CAPITAL OF ENTERPRISES

КЛАСИФІКАЦІЯ ТЕХНОЛОГІЙ УПРАВЛІННЯ ІНТЕЛЕКТУАЛЬНИМ КАПІТАЛОМ ПІДПРИЄМСТВ

Summary. The article provides a comprehensive study of the classification of intellectual capital (IC) management technologies as a tool for ensuring sustainable development and innovative growth of enterprises. The relevance of the topic is due to the transformation of the role of IC in the modern knowledge economy, the growing importance of intangible assets in determining the market value of companies, and the need for effective management of these resources in the context of digitalisation. It has been determined that intellectual capital encompasses a combination of human, structural, and customer capital, which are interrelated and require targeted management influence through the implementation of appropriate technologies. Based on an analysis of scientific sources and practical experience, the author systematised the main approaches to the classification of IC management technologies and developed an author's model that includes several classification criteria. A classification is proposed according to functional purpose (analytical, strategic, operational, regulatory, motivational), level of coverage (individual, group, organisational), technological basis (information and communication, knowledge, platform, digital), source of initiative (endogenous, exogenous), orientation towards capital type (human, structural, customer, synergistic). The classification of corporate intellectual capital management technologies involves structuring them in terms of content and functional focus. These criteria are key elements of systematic and targeted goal setting and practical achievement of set goals, determined by real

processes of economic knowledge transformation. It is shown that the use of the proposed classification allows enterprises to more effectively build IC management systems, form internal standards for working with intellectual resources, and ensure the integration of knowledge into management decision-making processes. Particular attention is paid to the implementation of classified technologies in the real sector of the economy, in particular in IT companies, knowledge-intensive industries, and high-tech clusters. The article is of interest to scientists, enterprise managers, human resource and knowledge management specialists, as well as developers of innovative strategies.

Key words: intellectual capital, classification features, management technologies, enterprise, innovative development.

Formulation of the problem. The formation of an innovative economy is taking place in the context of a new paradigm of scientific and technological development, which includes the activation of intellectual resources and the transformation of knowledge and technology into a leading factor in economic development. The most important civilisational and national priorities are shifting towards science, culture and education. Scientists are focusing their attention on researching both the substantive components of intellectual capital as the most important economic phenomenon of the modern era and analysing technologies for the

organisational management of intellectual capital.

The rapidly developing modern world, with its intellectual resources, information and communication technologies, scientific and industrial ties and relations, raises the acute question of improving the effectiveness of innovation management, which allows for the correct selection and implementation of innovative corporate development strategies, as well as the creation and successful commercialisation of innovative products and projects. The most important dominant feature of the emerging economic model is the system of innovative processes, intellectual capital and information and computer technologies.

An analysis of the economic activities of the world's leading corporations shows that it is active innovation that is the fundamental basis for the high efficiency and competitiveness of corporate business. To solve the problem of increasing the efficiency of Ukrainian enterprises and organisations' transition to an innovative path of development, it is necessary to study key economic concepts that allow for the improvement of the theory of innovative development; to identify mechanisms for increasing the innovative efficiency of corporate functioning; to identify trends in improving the management of innovative activities of enterprises and organisations in the context of economic transformation.

Analysis of recent achievements and publications. It should be noted that the formation of theoretical foundations for the study of innovation began in the late twentieth century, where innovation was defined as the introduction of elements of one culture into another. At the beginning of the new century, Joseph Schumpeter, one of the founders of innovation theory, viewed innovation as an economic category, a necessary condition and essence of economic development. According to the scientist, the main goal of a company's development is not to maximise profits by minimising costs, but to seek a strategic advantage based on product, technological or organisational innovations [1-8].

In modern scientific works, this concept is interpreted much more broadly as a certain innovation related to the creation, recognition or implementation of new elements or models of tangible and intangible cultures based on the use of advanced scientific achievements in the field of engineering, technology, labour organisation or management. For example, Robert B. Tucker believes that innovation is "the coming up with new ideas and putting them into practice. Its creative aspect, which is also the basis of this category, is the formation of a new idea. After all, if there are no ideas, there is no chance of innovation" [2].

It should be emphasised that the study of the concept of «innovation» has not led to a unity of views on its definition and essential characteristics.

The purpose of the article is to substantiate and develop a classification of technologies for managing intellectual capital in enterprises, taking into account current trends in the knowledge economy, digitalization, and the growing importance of intangible assets, as well as to identify opportunities for its practical application in enhancing the effectiveness of managerial decision-making related to the formation, preservation, and utilization of intellectual potential.

Presentation of the main material. The classification of corporate intellectual capital management technologies involves structuring them in terms of content and functional focus. These criteria are key elements of systematic and targeted goal setting and practical achievement of set goals, determined by real processes of economic knowledge transformation.

They are based on an understanding of technological laws that allow management entities to develop mechanisms and means to stimulate innovative actions and creative initiatives of employees, organisation and development strategies of companies, as well as on the results of practical activities of people, the implementation of their professional knowledge and skills, intellectual efforts and creative energy.

An analysis of corporate intellectual capital management technologies based on their content allows them to be classified into the following main groups:

1. Organisational knowledge management technologies. These are a set of techniques and methods for influencing the comprehensive integration, use and dissemination of knowledge accumulated by the company itself, together with the knowledge of employees, customers and partners, allowing a synergistic effect to be achieved, which ensures a high level of intellectual capital and quality of business processes. Organisational knowledge management technologies are systematic activities for the production (formation of new knowledge), development (transformation of created knowledge), generation (training of employees), formalisation (development of rules, principles, methods and their consolidation in documents, databases, software), storage (preservation for subsequent implementation), diffusion (dissemination and exchange of knowledge within the organisation and restriction of this process outside the company), coordination, control and protection (nature and consistency of

application, its scope and limitations, protection of knowledge from unauthorised influence), creation and implementation (embodiment of knowledge in products, services, documents, databases, software and their implementation on the market);

2. Technologies for forming a personnel development strategy. These include a set of measures to create a system for the selection and placement of personnel, the effective functioning of capable, highly professional teams, the development of the creative potential of employees, the organisation of teamwork, the professional and personal growth of employees, the improvement of processes to stimulate their activities, and the introduction of systems to find the best specialists and professionally trained employees. The formation of human resources that meet the requirements of the innovative nature of the modern economy is the most important strategic resource of any organisation. The main problem lies not only in improving the level of professional education of employees and training qualified specialists, but also in changing the personal appearance of these employees, who are motivated, above all, by innovative development, initiative and self-learning. Addressing this issue contributes to improving the professional competencies of employees, improving the efficiency of labour activities and reducing staff turnover, as well as helping employees adapt to new technologies and innovative changes.

Technologies for forming a personnel development strategy make it possible to ensure a high level of professional qualification of personnel, forecast and plan the company's labour resource needs, manage the career and professional growth of employees, organise a system of continuous training, and create conditions for involving personnel in creative, innovative activities to build the intellectual potential of the organisation.

3. Organisational culture technologies. Focused on knowledge and the growth of intellectual potential as an important factor in the competitiveness of modern organisations. The use of these technologies allows for the best use of organisational culture factors to achieve the company's goals related to improving the functioning of the management system, employee communications, their training and education, the formation of value orientations, adaptability, coordination of joint actions, the presence of feedback, and motivation for creative collaboration. A constructive influence on the formation of the intellectual potential of an organisation is provided by the alignment of the company's goals and values with those of its employees, ensuring the involvement of team

members in the company's activities and the participation of staff in the implementation of its strategic plans and objectives. An important component of organisational culture is the presence and strength of corporate spirit, which determines the degree of unity and cohesion of employees in the team, as well as the level and state of the socio-psychological climate.

4. Technologies for internal labour motivation. These are aimed at activating the motivational incentives of employees for active intellectual activity, saturating production processes with mental and creative operations that increase the importance of assessing a person's intellectual qualities. In terms of content, these technologies expand the possibilities for using various motivators of labour activity, stimulating a system of continuous education for the organisation's employees, and ensuring internal sources of investment. The algorithm for applying technological mechanisms of internal labour motivation includes: determining the possibilities of the influence of internal and external environmental factors on production processes and the structure of motivational mechanisms, selecting tools and mechanisms for influencing employees, researching motivational resources in management (organisation of labour, principles of social partnership, possibilities of the enterprise's social policy), and evaluating the effectiveness of the motivational programme. The experience of leading countries in the world in transitioning to an innovative model of economic development shows the effectiveness of non-material incentives for employees' labour activity in conditions of high standards of their quality of life. Such a transition activates employees' desire to improve the quality of their work, its intellectualisation, creative activity, and inventive initiative.

5. Corporate social responsibility technologies. These contribute to the solution of production tasks by means based on moral norms and respect for people, society, and the environment, and include voluntary contributions by corporations to the development of society, its ecological and social spheres. The main targets of corporate social responsibility are the work collectives of enterprises, individual social groups and strata of the population, representatives of the regional community and society as a whole. Corporate social responsibility is implemented through such charitable activities as socially responsible investment, sponsorship, corporate volunteering, and social marketing. The use of corporate social responsibility technologies allows for the resolution of a whole

range of issues related to economic growth and the development of intellectual capital, which transforms the work of employees, stimulates their creative potential, innovative activity, and the need for continuous learning, improving the quality of life of employees and the population of the region.

6. Social partnership technologies. These act as a «system of relations between employees (employee representatives), employers (employer representatives), state authorities, and local self-government bodies, aimed at ensuring the coordination of the interests of employees and employers on issues of labour relations regulation and other directly related relations» [1].

The social partnership mechanism includes:

- maintaining ongoing dialogue between representatives of the social partnership (employees, employers, state authorities and local self-government bodies);
- concluding collective agreements and relevant agreements between them on the entire spectrum of labour relations;
- conducting expert reviews of proposed agreements and contracts;
- continuous monitoring and control of the implementation of concluded agreements;
- participation of state authorities and civil society institutions in the implementation of joint socio-economic problems.

Social partnership technologies are aimed at actively involving all parties interested in corporate and regional development in this activity, holding public discussions on socially significant issues of everyday life of the population and citizens, organising competitions for socially significant projects and programmes aimed at intellectualising the creative potential of employees and their social development. To this end, a project-program approach is used, as well as the organisation and conduct of competitions and tenders for socially significant projects.

Corporate intellectual capital management technologies can also be classified according to their functional orientation. The functional approach allows us to consider processes and phenomena through a sequence of interrelated input and output functions that constitute a certain process, which includes its sub-processes, until each of the sub-functions represents a certain non-decomposable sequence of actions [3]. This approach facilitates the systematisation of all production and economic activities of the company, when each structural unit (employee, department, management) is assigned functional responsibilities, areas of activity, and

responsibility for the actions and operations performed.

Analysis of corporate intellectual capital management technologies by functional orientation allows them to be divided according to various criteria. For example, strategic and tactical social technologies are distinguished by type of target orientation. Strategic technologies are aimed at achieving long-term goals for the innovative development of enterprises and ensuring their competitiveness in the context of the emerging digital economy. Tactical technologies provide solutions to specific production and technical, scientific and educational, personnel, innovation and management, and social problems in the near future.

By type of educational activity, technologies are divided into educational, related to the training and advanced training of specialists in the field of knowledge management; socially transformative, allowing for the adaptation, socialisation and self-training of employees; and evaluative, including auditing, control and planning, and personnel certification.

According to the focus of the processes performed, technologies are divided into normative, which ensure the diagnosis of the processes performed, their implementation and reform; structured, which allow for forecasting, design and social construction; search, aimed at finding innovative solutions, documentation and mapping; and transformational, which ensure the transformation of the external environment (technologies for ensuring intellectual security, creating the image of the organisation, coordination and inter-sectoral interaction) and the internal environment of the organisation (technologies for personnel policy, staff training, their careers, social partnership, innovative activities).

By the nature and content of the means used, social technologies for intellectual capital management include organisational and administrative, social and legal, educational, medical and social, psychological, and pedagogical technologies. By duration of action – short-term, medium-term, long-term; by results – constructive, destructive; by stimulating effect – material and immaterial; by level of influence – highly effective, moderately effective, low effective; in terms of changes in the social system – progressive, regressive; in terms of investment in human capital – training, retraining and professional development of employees, maintaining their health, general cultural and professional level, providing social protection, assistance and support; in terms of managerial

influence on the object of management – multi-level, intermediary, individual.

Thus, corporate intellectual capital management technologies act as a set of techniques, methods and means of optimising management and organising practical activities aimed at identifying or transforming objects of intellectual activity and achieving a given result. Their organic inclusion in the management system of the organisation allows for the systematisation of human resource management and ensures the effective reproduction of intellectual capital.

Conclusions. The article substantiates the necessity of a systematic approach to the classification of technologies for managing intellectual capital in enterprises, driven by the increasing importance of intangible assets in building sustainable competitive advantages. The proposed classification encompasses a range of criteria that reflect the functional, organizational, technological, and strategic characteristics of management technologies in the field of intellectual capital. This approach not only structures existing management tools but also lays the foundation for developing new models and methods tailored to the specific needs of enterprises and industries. The practical significance of the study lies in its applicability to the development of knowledge management systems, innovation strategies, and the transformation of managerial practices in response to the challenges of the digital economy. Future research should focus on evaluating the effectiveness of the classified technologies across various economic sectors, as well as developing diagnostic tools for assessing the state and dynamics of intellectual capital.

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Анотація. У статті здійснено комплексне дослідження класифікації технологій управління інтелектуальним капіталом (ІК) підприємств як інструменту забезпечення їхнього сталого розвитку та інноваційного зростання. Актуальність теми обумовлена трансформацією ролі ІК у сучасній економіці знань, зростанням значущості нематеріальних активів у формуванні ринкової вартості компаній та потребою в ефективному управлінні цими ресурсами в умовах цифровізації. Визначено, що інтелектуальний капітал охоплює сукупність людського, структурного та клієнтського капіталів, які є взаємопов'язаними й потребують цілеспрямованого управлінського впливу через впровадження відповідних технологій. На основі аналізу наукових джерел і практичного досвіду автор систематизував основні підходи до класифікації технологій управління ІК та розробив авторську модель, яка включає кілька класифікаційних ознак. Запропоновано класифікацію за функціональним призначенням (аналітичні, стратегічні,

операційні, регуляторні, мотиваційні), рівнем охоплення (індивідуальні, групові, організаційні), технологічною основою (інформаційно-комунікаційні, знаннєві, платформенні, цифрові), джерелом ініціативи (ендогенні, екзогенні), орієнтацією на тип капіталу (людський, структурний, клієнтський, синергетичний). Класифікація корпоративних технологій управління інтелектуальним капіталом передбачає їх структурування з погляду змісту та функціональної спрямованості. Дані критерії є визначальними елементами системного та спрямованого цілепокладання та практичного досягнення поставлених цілей, обумовлених реальними процесами трансформації економічного знання. Показано, що використання запропонованої класифікації дозволяє підприємствам ефективніше вибудовувати системи управління ІК, формувати внутрішні стандарти роботи з інтелектуальними ресурсами, забезпечувати інтеграцію знань у процеси прийняття управлінських рішень. Особливу увагу приділено впровадженню класифікованих технологій у реальному секторі економіки, зокрема в ІТ-компаніях, наукоємних виробництвах, високотехнологічних кластерах. Стаття становить інтерес для науковців, керівників підприємств, фахівців з управління персоналом і знаннями, а також для розробників інноваційних стратегій.

Ключові слова: інтелектуальний капітал, класифікаційні ознаки, технології управління, підприємство, інноваційний розвиток.