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FORMATION OF HUMAN, STRUCTURAL AND SOCIAL CAPITAL OF ENTERPRISES AS COMPONENTS OF THEIR INTELLECTUAL CAPITAL

In modern economic conditions, marked by market instability, rapid digitalization, innovative competition, and constant transformations of business models, enterprises are increasingly shifting their focus from material resources to intangible assets, among which intellectual capital holds a central position. The formation of intellectual capital has become the foundation for ensuring adaptability, resilience, and innovation-driven growth of organizations. The structure of intellectual capital includes three essential and interrelated components – human, structural, and social capital – which together form a comprehensive system of knowledge, competencies, organizational infrastructure, and relational networks. This article explores the theoretical and methodological foundations of forming each of these components and substantiates their strategic importance for the sustainable development of enterprises in an innovation-oriented economy. Human capital is analyzed as a source of idea generation, knowledge creation, and professional initiative; structural capital is seen as the mechanism that transforms knowledge into organizational value through institutional frameworks, technologies, procedures, and corporate culture; while social capital is interpreted as the basis for trust, internal cohesion, and the development of external relations. The article systematizes national and international approaches to understanding the interdependence of these forms of capital, identifies the key challenges and barriers to their harmonious development, and proposes an author's vision of mechanisms to ensure their synergy. The study concludes that the integration of human, structural, and social capital into a unified intellectual management system significantly enhances the innovative potential of enterprises, supports the formation of unique competitive advantages, and ensures long-term sustainable development. The practical recommendations derived from this research can be applied in strategic planning, knowledge management system design, and the development of organizational structures focused on intangible asset development.

Keywords: intellectual capital, human capital, organisational capital, social capital, enterprise.

ФОРМУВАННЯ ЛЮДСЬКОГО, СТРУКТУРНОГО ТА СОЦІАЛЬНОГО КАПІТАЛУ ПІДПРИЄМСТВ ЯК КОМПОНЕНТІВ ЇХ ІНТЕЛЕКТУАЛЬНОГО КАПІТАЛУ

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Сучасні економічні умови, що характеризуються нестабільністю ринків, швидкою цифровізацією, інноваційною конкуренцією та постійними трансформаціями моделей ведення бізнесу, вимагають від підприємств переорієнтації з матеріальних ресурсів на нематеріальні активи, серед яких ключове місце займає інтелектуальний капітал. Його формування стає основою забезпечення адаптивності, стійкості та інноваційного розвитку організацій. У структурі інтелектуального капіталу виокремлюють три провідні складові – людський, структурний та соціальний капітал, які у взаємодії формують цілісну систему знань, компетенцій, організаційної інфраструктури та партнерських відносин. У даній статті розкрито теоретико-методологічні засади формування кожного з компонентів інтелектуального капіталу та обґрунтовано їх стратегічну важливість для забезпечення сталого зростання підприємств в

умовах інноваційної економіки. Людський капітал проаналізовано як джерело генерації ідей, знань і професійної ініціативи; структурний капітал – як механізм трансформації знань в організаційну цінність через інститути, технології, процедури, корпоративну культуру; соціальний капітал – як основу довіри, внутрішньої згуртованості колективу та розвитку зовнішніх зв'язків. У статті систематизовано підходи вітчизняних та зарубіжних дослідників щодо взаємозв'язку між цими видами капіталу, окреслено проблеми та бар'єри їх гармонійного формування, а також запропоновано авторське бачення механізмів синергії між ними. Зроблено висновок, що інтеграція людського, структурного та соціального капіталу в єдину систему інтелектуального управління дозволяє суттєво підвищити інноваційний потенціал підприємства, сприяє формуванню унікальних конкурентних переваг та забезпечує стабільний розвиток у довгостроковій перспективі. Практичні рекомендації, сформовані за результатами дослідження, можуть бути використані для стратегічного планування, розробки системи управління знаннями та побудови ефективних організаційних структур, орієнтованих на розвиток нематеріальних активів.

Ключові слова: інтелектуальний капітал, людський капітал, організаційний капітал, соціальний капітал, підприємство.

Formulation of the problem. The modern economy is increasingly focused on knowledge, innovation and intellectual resources as key factors in the competitiveness of enterprises. In this context, intellectual capital

is of particular importance, as it is viewed not only as a set of intangible assets, but also as a strategic resource that ensures the long-term development and adaptability of enterprises to changes in the external environment. Its structure comprises three key components: human capital, which includes knowledge, competencies, experience and creativity of personnel; structural capital, which represents internal processes, information systems, and innovative infrastructure; and social capital, which manifests itself in the form of sustainable relationships, trust, and partnerships both within the organisation and with its external environment. Despite growing scientific interest in the issue of intellectual capital, domestic and foreign literature shows fragmentation in the study of the processes of formation and development of its individual components, as well as insufficient attention to the interdependencies between them. In addition, the issue of ensuring synergy between human, structural and social capital to achieve maximum effect in the context of innovative growth remains unresolved in practice. This necessitates a comprehensive scientific understanding of the mechanisms of formation of each of these types of capital and the identification of their role in the formation of the integrated intellectual potential of an enterprise.

Analysis of recent achievements and publications. Recent scientific studies devoted to the issue of intellectual capital confirm its leading role in shaping the competitive advantages of enterprises in conditions of economic uncertainty and digitalisation [1–9]. The works of Ukrainian scientists such as I. Khaustova, Yu. Denisenko, O. Amosha, and T. Doroshuk outline the essence of intellectual capital, highlight its key components, and emphasise the need for their coordinated development. Researchers emphasise the importance of human capital as a source of knowledge and competencies, structural capital as organisational support for innovation processes, and social capital as a factor of trust, interaction and network integration. In foreign literature,

particularly in the works of T. Stewart, L. Edvinsson, and B. Johansen, intellectual capital is viewed as an integrative system that encompasses individual and collective experience, information infrastructure, and social connections, which together form the basis of an organisation's innovative potential. At the same time, despite the wide representation of theoretical models, the question of the practical implementation of the processes of forming human, structural and social capital as interrelated elements remains open.

The purpose of this article is to substantiate the theoretical foundations and outline practical approaches to the formation of human, structural and social capital of enterprises as components of intellectual capital in the context of ensuring their sustainable innovative development.

Presentation of the main material. Human capital is a key component of intellectual capital. The conceptual foundations of human capital theory were laid in the second half of the 20th century by Theodore W. Schultz, who published his work «Investment in Human Capital» in 1961 [2], as well as in the works of G. Becker, who substantiated the effectiveness of investments in human capital and formulated an economic approach to human behaviour [4]. Gary Becker viewed people as part of the physical capital used in production, and defined education as a form of investment in human capital. In his opinion, investments in people also include expenses for the upbringing of the younger generation, the health of employees and their families, the search for information, changing jobs, and other investments that contribute to the development of an employee's productive capacity and their cultural and intellectual growth. Subsequently, in the works of a number of foreign scientists, human capital is considered not only as a social factor of development, but also as an intensive productive factor of economic development, a measure of a person's ability to generate income. Thus, according to J. Ruus, S. Paik and L. Fernström, human capital is the sum of intellectual resources used by an individual or organisation to generate income [9].

Western scholars pay particular attention to issues of investing in human capital, its use in the practice of education management and professional development at the macro and micro levels. A typical example of such works is O. Nordhock's «Human Capital in Organisations», in which the author studies the microeconomic aspects of the formation and effective use of human capital and assesses its application in the modern world [7].

In our country, research on human capital is actively developing in the works of such Ukrainian scientists as A.M. Kolot, M.I. Karlin, Z.Y. Lutishin, I.V. Grinchuk, O.O. Bandurka, L.G. Melnik, I.V. Zhi-lyayeva, O.S. Vinnichenko, O.G. Redko, N.V. Gerasymchuk and others. Their works are devoted to the theoretical and methodological foundations of the formation, assessment and effective use of human capital in the conditions of a transitional economy, digitalisation and innovative development. These and subsequent studies examined the content and essential characteristics of human capital, its categorical apparatus, analysed the problems of the interconnection of structural components of intellectual capital, and identified issues of management functioning in an innovative economy. In connection with the transition to an innovative economy, there is a growing need to introduce innovations in the field of human capital management. The matrix of the main innova-

tive technologies for human capital management is shown in Fig. 1.

At the level of human capital management, innovative technology is a sequence of personnel processes that enable the implementation of the enterprise's development strategy. Human capital is considered by domestic scientists to be a fundamental economic category, a special form of human life activity, a product of the transformation of post-industrial society, which changes in the process of historical development to its current state, a reserve of human knowledge, abilities and motivations, creative and intellectual abilities, moral values, work culture, and accumulated experience.

Group methods are recognised as the most effective management tool. Human capital management technology must be considered in context, as the significance and primacy of the role of the region and the company are difficult to separate. One option for a formalised model of comprehensive human capital analysis at the corporate level is shown in Fig. 2.

While in the early stages of human capital research, it only included the cost of specialised education for employees, it now includes the cost of their upbringing, healthcare, science, culture and information support, as well as the cost of training the managerial state elite, ensuring national security, impro-

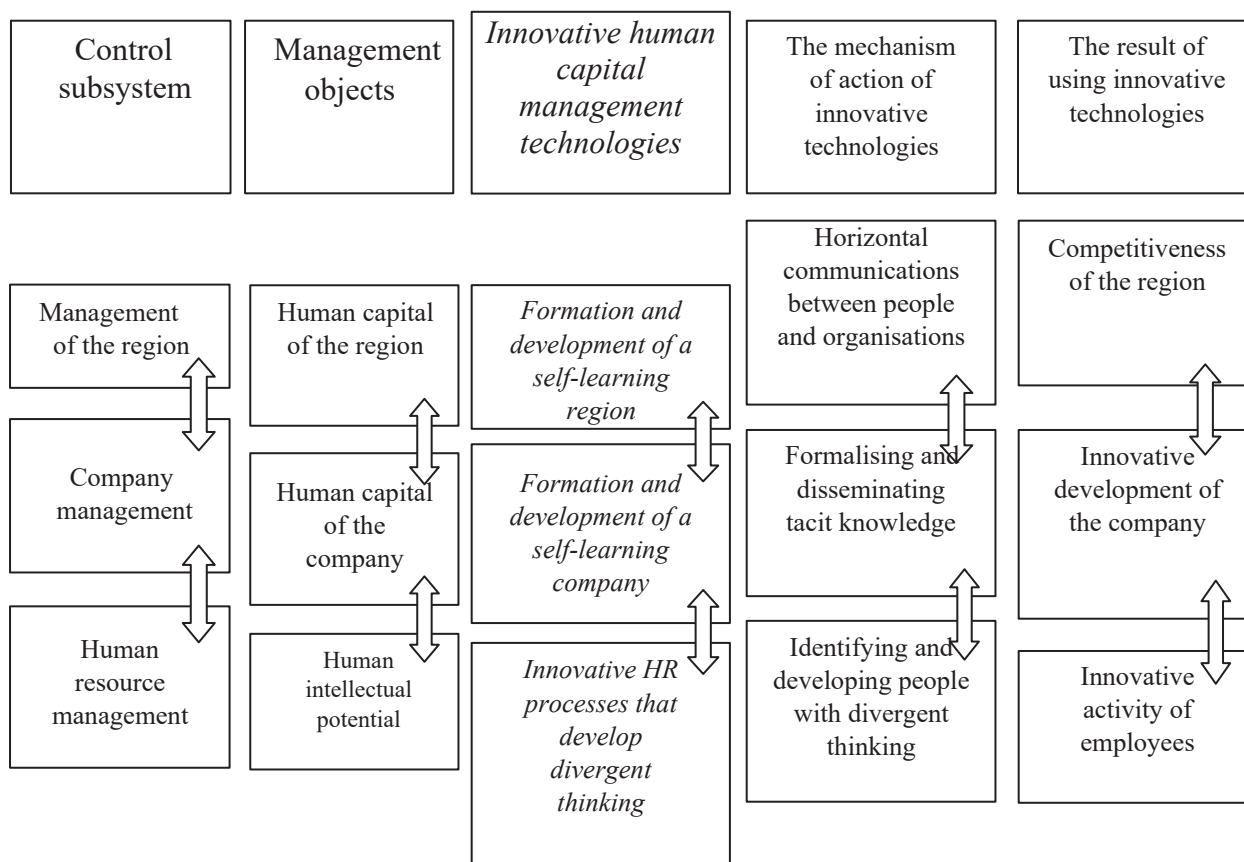


Figure 1. Matrix of the main innovative technologies of human capital management

Source: compiled by the author

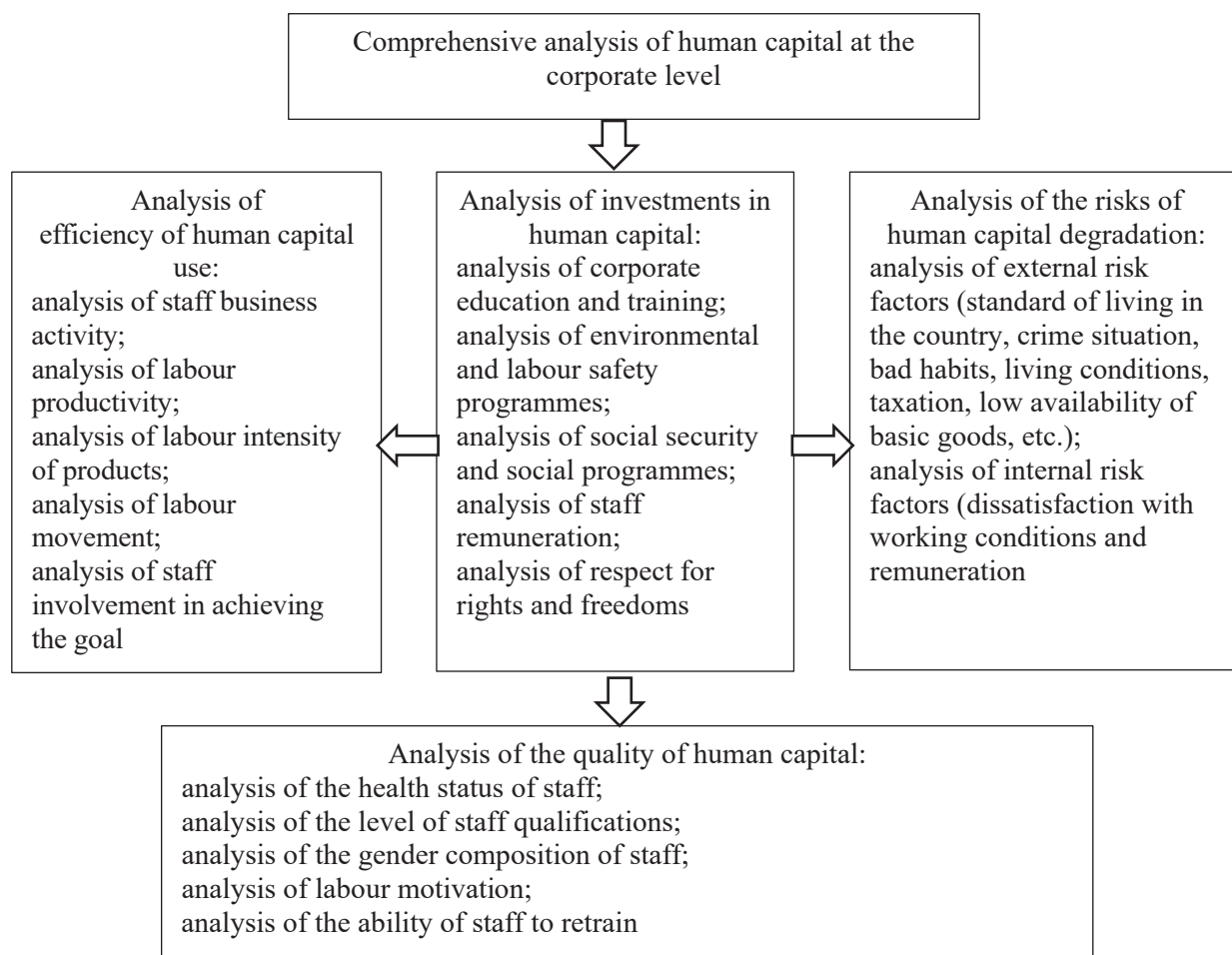


Figure 2. Model of comprehensive analysis of human capital at the corporate level

Source: compiled by the author

ving the quality of life of citizens, the development of civil society institutions, and the expansion of capital investment.

Thus, human capital includes the totality of economically valuable knowledge, skills, professional competencies, motivations embodied in a person, as well as their ability to perceive and produce new information. In broad terms, it can be seen as an important factor in the economic and social development of society, supported by the organisation of a system of continuous education, the strengthening of citizens' health and demographic development, the improvement of the quality of the workforce, and the creation of comfortable living conditions for employees. The level of creativity and innovation in the performance of work by employees is often used as a characteristic of this type of capital.

Unlike other types of capital, human capital does not belong to the organisation, as the knowledge, practical skills, creative and intellectual abilities of people, personal and leadership traits are accumulated in specific employees of the company. It can accumulate over the years, has a longer investment period, a high level of risk and various forms of return. In order to acquire and own human capital, to obtain economic benefits from the knowledge, skills, abili-

ties and experience of employees, which are inherent to the latter, it is necessary to make long-term efforts, significant financial investments, and moral efforts.

Human capital is an important resource for shaping the economic and social policies of the state aimed at improving the well-being of society and its citizens. Human capital has a positive impact on the productivity of employees, increases their efficiency and the rational use of personal resources. Improving the level of education contributes to the "application effect", as employees in a new state strive to master new technologies and innovative products, as well as to implement them in their production and consumption practices. The accumulation of human capital increases not only the speed at which scientific, technical and organisational discoveries and inventions are disseminated, but also the speed at which they are generated. Managing the formation and development of human intellectual capital is the basis for effective performance in an organisation.

In order to monitor the effectiveness of human capital management and improve the management system, an innovative methodology for assessing the human capital of company employees is necessary. The methodology we have developed for the formation of a company's human capital consists of

elements of organisational, psychological and physiological influence on the human capital of employees, resulting in an increase in professional and intellectual performance (Fig. 3).

Structural (organisational) capital is a system of rela-

tions, management and technological processes, forms, procedures and structures that arise in an organisation in relation to production, distribution and consumption. According to L. Edvinson, 'organisational capital is what remains in the company when employees go home

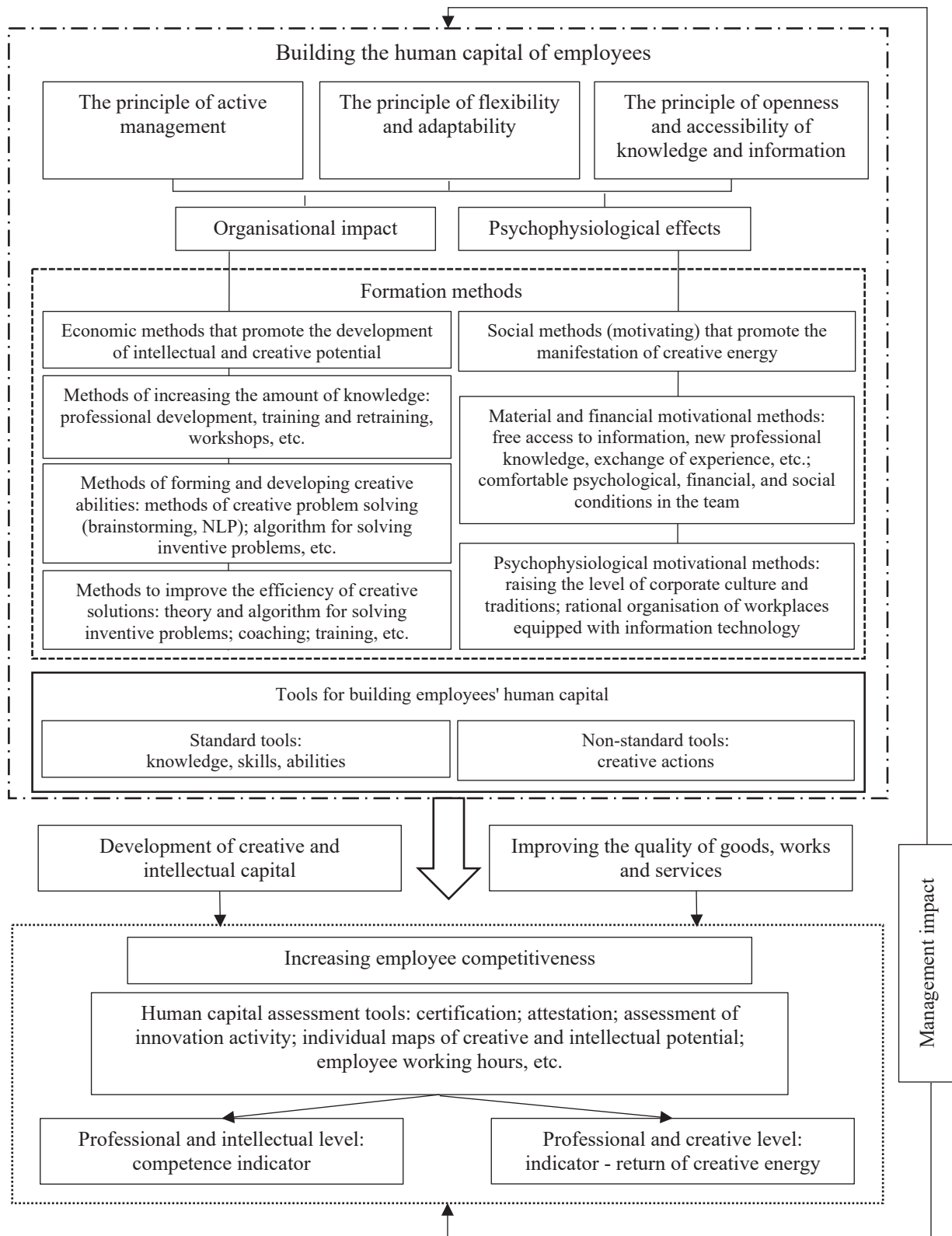


Fig. 3. Methodology of human capital formation in an organisation

Source: developed by the author

in the evening'. This includes a certain set of accumulated knowledge, functioning business structures, management systems, mechanisms and technologies created by the organisation itself and its suppliers, which contribute to the creation of relevant core values [8]. There are different approaches to understanding the substantive components of organisational capital. According to J. Ruus, S. Pike, and L. Fernström, it includes brands, trademarks, service offerings, product concepts, patents and other intellectual property, as well as the organisational structure of the company, business processes, business systems, business structures, information on paper, information in databases, software, and organisational culture [1]. L. Edvinsson includes innovative and process components in organisational capital. Innovative capital is innovative developments and scientific research as part of intellectual property as part of intangible assets. Process capital consists of the company's infrastructure (hierarchy of management levels, business processes, etc.) [8].

To summarise the views presented, the following classification components of structural (organisational) capital should be distinguished: the organisational structure of the company, management and production technologies; technological infrastructure; business processes; availability of business partners, flexible and efficient business network; intellectual property and databases; reserves for new products; hardware and software; information networks and systems; supply, sales and advertising contracts. Organisational capital is the property of the company and requires constant investment in order to take into account innovative changes in the market. In the case of the development of society's knowledge, this type of capital quickly loses its value if its elements are not materialised in products or copyrighted in time. Therefore, significant investments are required in the organisation of research activities, as well as continuous improvement of organisational culture, which allows the development of value and normative attributes, motivational mechanisms and social communications that create a unique identity of the organisation and its business reputation.

For an organisation to function successfully, it is necessary to have a sufficiently flexible organisational structure, conduct large-scale research and development activities, actively use modern technologies for managing and motivating staff, and implement processes of informatisation and computerisation of production processes.

Social capital is a certain system of social communications, value-based norms and relationships that govern human interactions and ensure economic and social development of an organisation. The modern understanding of social capital, approved in the social sciences, is based on the views of P. Bourdieu, who believes that social capital appears as «a set of real or potential resources associated with possessing a stable network of more or less coordinated relations

of mutual acquaintance and recognition - in other words, with group membership», which are formed by obligations, i.e. ties and relationships. P. Bourdieu studied various forms of capital and argued that economic, cultural, social and symbolic capital have the ability to integrate. Moreover, social capital, in his opinion, includes the connections necessary to maximise the use of economic and cultural capital, providing employees with access to economic resources [5].

J. Coleman understood social capital as an individual resource of an individual to achieve personal and collective goals based on maximising benefits [2]. The formation and development of social capital allows achieving certain goals and establishing interpersonal relationships that are beneficial for different participants in management relations. J. Coleman believed that social capital is the potential for mutual trust and mutual assistance of people who purposefully form it to fulfil their obligations.

Similar views were held by R. Putnam, who studied social capital in the context of analysing institutions, political and social rule-making on their basis, and considered it the main source of effective governance and economy, an indicator of cooperation [4]. According to the scientist, social capital is contained in various social organisations of society, which ensure coordination and cooperation of society's life, successful functioning and interaction of people [4].

According to Fukuyama, social capital is defined as the ability of people to create a collective community to achieve a common goal. Such association and general solidarity are possible only if all team members share social norms and values, as well as the willingness of employees to subordinate their personal interests to the interests of the team. As a result, trust is formed in the group as an expectation of predictability of honest actions of each employee in accordance with the needs of others and generally accepted norms of behaviour [7].

In general, social capital as a certain resource is provided by the interaction of employees integrated into the system of social relations. Its main difference from other forms of capital is its «embodiment» not in subjects or objects, but in social ties and relations of actors, the ownership of which cannot be acquired or transferred to another person. The creation and development of social capital is associated with the exchange of knowledge transmitted by society through the process of education and socialisation of individuals. The main components of social capital are: social ties and relationships of employees, the level and quality of their education, social recognition, moral customs shared by people, traditions, values and social norms, social networks and network changes, social interaction and accumulated trust as the main elements of the social capital system. Social capital as a complex phenomenon includes various forms and types. The following relatively independent forms of social capital are distinguished:

– structural capital, which includes networks, associations, institutions, as well as rules and regulations governing their functioning;

– cognitive capital, consisting of relationships, norms, behaviour, shared values and trust [5].

Taking into account its functioning at the internal and external organisational levels, it is advisable to divide social capital into micro-levels (households, small and medium-sized businesses, a small settlement or a city district), meso-levels (large business structures, organisations (associations, regions) and macro-levels (the state). In the context of expanding managerial interaction and the proliferation of social networks, the development of a system of social communications underpinning social capital, the formation of positive personal relationships between employees, and ensuring conflict-free interaction in production teams and organisational structures, which contributes to the effective economic and social development of society, are of particular importance.

Conclusions. As a result of the study, it has been found that the effective formation of human, structural and social capital is a key prerequisite for creating a holistic intellectual capital of enterprise. Each of the components under consideration performs a specific function, but only their coordinated interaction allows to ensure the development of innovative

potential, adaptability to changes in the external environment and long-term competitiveness of the enterprise. Human capital is a source of knowledge, ideas and professional competences; structural capital provides the organisational environment for their implementation; social capital forms a system of internal trust, external relations and partnerships.

The generalisation of scientific approaches has allowed to substantiate the need for a systematic and synergistic approach to the management of these forms of capital. The article offers a vision of the mechanism of their interaction aimed at formation of the intellectual space of enterprise as a basis for innovation activity. The practical recommendations formulated on the basis of the analysis can be used by enterprises for strategic planning, building an effective internal infrastructure, developing personnel and establishing sustainable relations with external stakeholders.

Thus, the integrated management of human, structural and social capital should be considered as a strategic priority in the context of shaping the competitive advantages of enterprises in the digital age. Prospects for further research are to develop indicators for assessing the level of formation of these forms of capital, as well as to create models for their monitoring and adaptive management.

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