ЦИФРОВА ЕКОНОМІКА, МАТЕМАТИЧНІ І ІНСТРУМЕНТАЛЬНІ МЕТОДИ ЕКОНОМІКИ / DIGITAL ECONOMICS, MATHEMATICAL AND INSTRUMENTAL METHODS OF ECONOMICS

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DIAGNOSTICS OF THE TRANSFORMATION OF INTELLECTUAL CAPITAL PROPERTIES IN UKRAINE

Abstract. The focus of this study is on the analysis of transformations of the nation's intellectual capital during the period preceding the conflict. It identifies and organizes modern methods of assessing intellectual capital, classifies indicators considering their impact on the total volume of intellectual capital, and implements the normalization of these indicators for creating radial diagrams and determining the state of intellectual capital in Ukraine. The effect of changes in intellectual capital on the fluctuations of the country's Gross Domestic Product (GDP) is also examined. **Methodology.** To achieve the objectives of the study, various methods were employed: dialectical method and synthesis for analyzing the evolution of human, organizational, and structural capitals; graphic analysis for the visual representation of data; and comprehensive and structural analysis with expert assessments to evaluate the impact of intellectual capital transformations on economic indicators. **Scientific and Practical Significance.** The work contributes to understanding the impact of changes in the structure of intellectual capital on GDP dynamics, which is key to developing an effective strategy for managing the country's intellectual resources. From a practical standpoint, the research aids in establishing criteria for evaluating intellectual capital and developing motivational mechanisms based on digital innovations and artificial intelligence for optimizing the structure of intellectual capital, paving the way for the development of a refinement strategy.

Keywords: intellectual capital, digitization, structural capital, consumer capital, human capital, assessment, transformations, properties.

Problem statement and its relevance

Formulation of the problem and its relevance. In the era of globalization and the imperative of innovative economic development, there is a significant focus on investigating the intricacies and challenges surrounding the formation, evolution, and restructuring of intellectual capital (IC). This capital is recognized as a pivotal force driving the potential of national economies, essential for ensuring their strategic viability and resilience.

For Ukraine, one of the paramount strategic challenges lies in delineating shifts in the properties of intellectual capital and its constituent elements. This entails conducting thorough analyses, evaluations, and delineating trajectories for the transformation of IC properties, catalyzed by the dynamics of European integration, digitalization, and the identification of variances within the IC structure. The overarching goal is to devise robust strategies for advancing the Ukrainian economy. Despite the increasing significance of intellectual capital and its transformative potential, particularly in the context of pervasive digitalization, there remains a paucity of comprehensive research. Exploring the ramifications of intellectual capital transformation is imperative, especially given the tumultuous nature of the external landscape and the continual socio-economic and political fluctuations globally.

Assessing intellectual capital to discern shifts in its properties and to gauge its impact on augmenting Ukraine's GDP within the framework of digitalization and the knowledge economy emerges as a linchpin for strategic development. In today's economic milieu, intellectual capital assumes a pivotal role as a cornerstone of competitiveness, innovation, and sustainable economic growth.

An essential aspect involves adapting assessment methodologies to the challenges posed by digital transformation. The consideration of intellectual capital entails analyzing not only traditional economic metrics but also factors reflecting the level of digital maturity, scientific research activity, and the adoption of modern technologies.

Exploring the influence of intellectual capital on socio-economic development serves not only to identify key success factors for the national economy but also to pinpoint directions for strategic investments and innovations. Evaluating the impact of intellectual capital on GDP growth becomes a pivotal tool for making informed decisions and ensuring sustainable economic progress amid contemporary challenges and opportunities.

This approach necessitates considering innovative potential, the effectiveness of information technology utilization, and human resource development within the knowledge context. Establishing indicators of intellectual capital's impact can foster collaboration between economic and scientific communities, fostering the joint development of strategies and policies geared towards enhancing competitiveness and fostering sustainable growth.

A significant challenge lies in devising methods for quantitatively assessing the properties of intellectual capital that account for the specificities of the Ukrainian economic landscape. This scientific approach will enable the determination of intellectual capital's alignment with the country's needs and provide the groundwork for crafting national strategies aimed at fostering sustainable economic development.

In summary, scientific research on assessing the impact of intellectual capital on the country's economic development within the framework of digital transformation and globalization forms an integral part of strategic economic governance in the nation.

Analysis of Recent Research and Publications.

The study of various transformations of intellectual capital properties is of interest to certain representatives of both the foreign and domestic scientific community (Stewart, 1997). These researchers expand the conceptual understanding of intellectual capital and explore its impact on economic development, analyzing its various aspects such as education, technology, and human potential (Edvinsson & Malone, 1997). As a result of such scientific research at the national and macro levels, the definition of intellectual capital as all intangible resources available to a country is established (Bontis, 1998). These resources include knowledge, wisdom, skills, and experience, which are measured by the success of the country compared to others.

To measure national and regional intellectual capital, numerous models have been proposed, although there are limitations such as limited availability of published data for international comparisons and challenges in combining quantitative and qualitative assessments (Bontis et al., 1999). Many models have been introduced to measure national and regional intellectual capital (Lev, 2001). Research at the macro level is chosen due to the understanding of its importance for national economic growth, human development, and quality of life. Specifically, countries with high levels of intellectual capital demonstrate greater success compared to those focusing on tangible assets such as land, labor, and capital (Roos et al., 1997). Traditionally, the measurement of intellectual capital is based on the analysis of human, relational, and structural factors (Andriessen, 2004).

With the intensification of economic digitization, significant changes have occurred in the definition and conceptualization of intellectual assets (Lev, 2001). One effective approach to addressing this issue is to focus on the macro-, meso-, or micro-levels, allowing for a deeper understanding of how firm activities, the economy, and societal attitudes are changing (Sveiby, 1997). This strategic choice of research levels is crucial, as assessing intellectual capital can be complex, and utilizing a traditional approach to its measurement becomes valuable in creating a more progressive and contemporary understanding of the topic (Andriessen, 2004). Such an approach allows for the identification of new technological innovations and ways of thinking that impact the development of intellectual capital (Sveiby, 1997) and overall economic development of the country.

Despite the multitude of published scientific research results, there remain problematic issues regarding the relevance to current trends in the structure of Intellectual Capital (IC), methods of its evaluation that would predict changes in IC properties in a strategic aspect, for example, matching methods with strategic objectives, modern methods, and data sources. Also, the issue of the impact of changes in the properties of

intellectual capital in the context of digitalization on the economic development of the country is understudied, and this issue remains relevant.

Objective of the Article

The aim of the study is to evaluate the transformation of intellectual capital properties and determine their impact on changes in the country's economic status.

Presentation of the Main Research Material

Intellectual potential in the contemporary stage of development becomes a critical factor for economic advancement and growth, with intellectual capital emerging as the most important and valuable resource for achieving high development outcomes in countries.

The analysis of intellectual capital requires identifying its components to reveal important aspects of its functioning and impact on economic development. One of the key tasks is to identify the components and structural elements of intellectual capital, as well as to consider their transformation in the context of modern economic conditions.

Intellectual capital can undergo transformation, changing its properties and structure. Based on the analysis of previous research [11, p. 121; 12, p. 312; 10, pp. 303-315], we identify structural elements that significantly influence the formation of human, structural, and consumer capitals (figure 1).
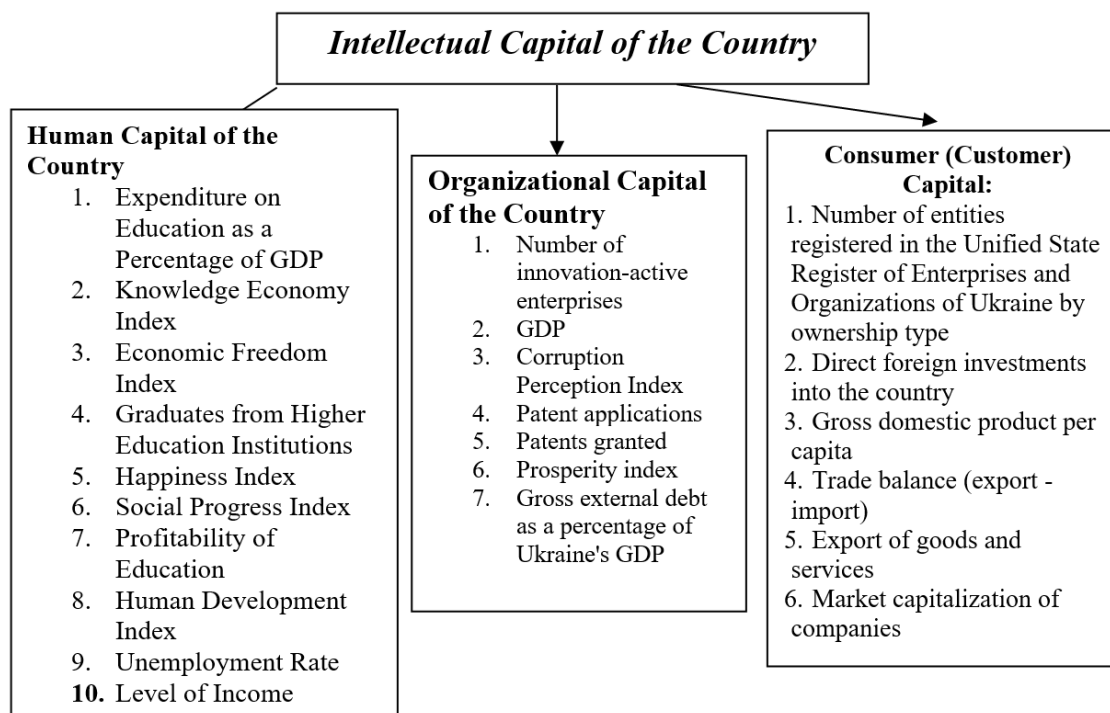
Intellectual Capital of the Country

Human Capital of the Country
1. Expenditure on Education as a Percentage of GDP
2. Knowledge Economy Index
3. Economic Freedom Index
4. Graduates from Higher Education Institutions
5. Happiness Index
6. Social Progress Index
7. Profitability of Education
8. Human Development Index
9. Unemployment Rate
10. Level of Income

Organizational Capital of the Country
1. Number of innovation-active enterprises
2. GDP
3. Corruption Perception Index
4. Patent applications
5. Patents granted
6. Prosperity index
7. Gross external debt as a percentage of Ukraine's GDP

Consumer (Customer) Capital:
1. Number of entities registered in the Unified State Register of Enterprises and Organizations of Ukraine by ownership type
2. Direct foreign investments into the country
3. Gross domestic product per capita
4. Trade balance (export - import)
5. Export of goods and services
6. Market capitalization of companies

Figure 1. Structure of the country's intellectual capital
Note: Enhanced by the author based on [10, p.304; 11, p.120; 12]

The primary focus in advancing the nation's strategy involves enhancing human expertise through educational advancements and fostering innovation, organizing knowledge structures within businesses, and deploying marketing tactics to optimize the value of intellectual assets. Examining and dissecting the evolution of intellectual assets within these realms enables the realization of their full potential and

facilitates the identification of optimal strategies for their efficient administration in the contemporary economic landscape.

To evaluate a nation's intellectual assets, it is imperative to scrutinize the levels of human, organizational, and client capitals. This analysis should encompass identifying their structural advantages, tracking changes in attributes, and addressing deficiencies to devise strategies aimed at purposeful property transformation within the framework of digital evolution. Progress in a country hinges on possessing adequate intellectual potential and robust intellectual assets, which represent tangible manifestations of the aforementioned potential.

To structure the tasks of selection, systematization, and data processing, a conceptual approach to evaluating the properties of intellectual capital has been refined, consisting of the following stages [10, p.312]:

1. Formation of the properties of human, organizational, and consumer (client) capitals for evaluating the intellectual capital of the country.
2. Classification of properties by their impact on the level of the country's intellectual capital.
3. Normalization of the properties of human, organizational, and consumer (client) capitals for constructing petal models.
4. Evaluation of the components of the country's IC and their properties using the area of diagrams.
5. Assessment and analysis of the transformations of the properties of intellectual capital, comparison, and identification of their impacts on the growth of the country's GDP and economic development. The indicators of the transformation of the properties of the country's human capital for 2019-2021 are provided in Table 1.

In the sphere of human capital, normalization of indicators takes place to ensure a comprehensive reflection of the level of change in the properties of human capital in this element of intellectual capital [10, p.310; 15, p.55].

Table 1

Indicators of the Transformation of Human Capital Properties

Human capital	Education expenditure as a percentage % of GDP	Knowledge Economy Index	Economic Freedom Index, points	University graduates, thousand people	Happiness Index	Social Progress Index	Profitability of education, %	Human Development Index	Unemployment rate, %	Differentiation of the population's living standards, times
2019	5,4	5,96	52,3	250	4,56	66,97	11	0,779	8,6	2,1
2020	5,4	5,65	54,9	385,7	4,88	71,2	7,1	0,775	8,5	2,2
2021	5,4	7,73	56,2	261,8	5,08	75,78	5,6	0,773	9,9	2,1

Note: [13,14]

If the indicator subject to normalization has a proportional impact on the resultant value of the capital, then the normalization calculation is performed using the following formula:

$$X_i^{NormMax} = \frac{X_i^{\text{Re}\,al}}{X_{\max}^{\text{Re}\,al}} \tag{1}$$

In the case where the impact of the indicator is inversely proportional, its normalization $X_i^{NormMin}$ takes place considering that the minimum value is regarded as the best. X_{min}^{Real}. From the set of indicator values, the minimum value is selected (in normalized form, it should be equal to 1), and it is divided by the i-th value. X_i^{Real}. The calculations are made using the following formula:

$$X_i^{NormMin} = \frac{X_{min}^{Real}}{X_i^{Real}} \qquad (2)$$

Due to the presence of negative values in the data dynamics, it is necessary to preprocess the data. For this, it is required to determine the smallest negative value in the set of values Avid and increase all values by (|Avid| + 1); an increase of 1 is a necessary condition to avoid zero values. The results of the normalization of all indicators that form human capital are displayed in Table 2.

Table 2

Indicators of human capital properties transformation, 2019-2021 (after normalization)

Human capital	Education expenditure as a percentage % of GDP	Knowledge Economy Index	Economic Freedom Index, points	University graduates, thousand people	Happiness Index	Social Progress Index	Profitability of education, %	Human Development Index	Unemployment rate, %	Differentiation of the population's living standards, times
2019	1	0,77	0,93	0,648	0,897	0,883	1	1	0,868	0,955
2020	1	0,73	0,98	1	0,960	0,939	0,645	0,994	0,858	1
2021	1	1	1	0,678	1	1	0,509	0,992	1	0,955

Based on the data from Table 2, a radar chart of the country's human capital has been constructed, and the area has been calculated (Fig. 2).

Area of Human Capital	
2019	2,606
2019	2,704
2020	2,725

Fig. 2. Area of the Country's Human Capital

The organizational capital is influenced by indicators normalized according to the same principles as the indicators of human capital, using formulas (1, 2). A systematic study of these indicators enables a comprehensive reflection of the level of development of the researched object, based on its structural potential. The values of all indicators are presented in Table 3.

Table 3

Indicators of organizational capital transformation in the country, 2019-2020

Organizational Capital	Number of innovation-active enterprises, units	GDP, million USD	Corruption Perception Index	Patent applications, units	Patents for inventions, units	Prosperity Index, points	Gross external debt as a percentage of Ukraine's GDP, %
2019	782	153781	117	3852	2255	57,32	79,2
2020	809	155582	117	3183	2179	57.39	80,8

Note: [13,14]

The results of normalizing all indicators forming the structural capital are presented in Table 4.

Table 4

Indicators of organizational capital transformation, 2019-2020.
(after normalization)

Organizational Capital	Number of innovation-active enterprises, units	GDP, million USD	Corruption Perception Index	Patent applications, units	Patents for inventions, units	Prosperity Index, points	Gross external debt as a percentage of Ukraine's GDP, %
2019	0,966	0,988	1	1	1	0,99	0,980
2020	1	1	1	0,826	0,966	1	1

Based on the data from the table, a radar chart of the country's organizational capital has been generated, and the area has been calculated (Figure 3).

Area of the country's organizational capital	
2019	2,678
2020	2,577

Figure 3. Area of the country's organizational capital

Organizational capital is influenced by indicators that are normalized using the same principles as those for human capital indicators, i.e., using formulas (1), (2). A systematic study of these indicators and the transformation of their properties enable a comprehensive reflection of the level of development of the object (IC) under investigation in terms of its consumer (client) capital. The values of all indicators are shown in Table 5.

Table 5

Indicators of influence on consumer (client) capital of the country, 2019-2021

Consumer Capital	Number of entities in the Unified State Register of Enterprises and Organizations of Ukraine by ownership types, units	Foreign Direct Investments (FDI) into the country, 2019-2021, million UAH.	Gross Domestic Product per capita, UAH.	Trade balance (exports - imports) as a percentage of GDP.	Exports of goods and services as a percentage %of GDP.	Market capitalization of companies as a percentage %of GDP
2019	1350627	1184,2	94633	-7,8	41,2	3,89
2020	1395448	1176	101138	-1,1	39	3,59
2021	1437009	1366	131944	-1,1	40,7	3,01

Note: [13,14]

The results of normalization of all indicators forming consumer (client) capital are presented in Table 6.

Table 6

Indicators of influence on consumer potential, 2019-2021

(normalization results)

Consumer Capital	Number of entities in the Unified State Register of Enterprises and Organizations of Ukraine by ownership types, units	Foreign Direct Investments (FDI) into the country, 2019-2021, million UAH.	Gross Domestic Product per capita, UAH	Trade balance (exports - imports) as a percentage of GDP.	Exports of goods and services as a percentage %of GD	Market capitalization of companies as a percentage %of GDP
2019	0,90	0,87	0,70	0	1,00	1,00
2020	0,97	0,86	0,80	0	0,90	0,99
2021	1,00	1,00	1,00	0	0,99	0,80

Based on the data from Table 6, a radar chart has been created and the area of consumer capital of Ukraine has been calculated (Figure 4).

Area of Consumer Capital Properties	
2019	1,43
2020	1,46
2021	1,56

Figure 4. Area of Consumer Capital Properties

Taking into account the values of the indicators reflected in the petal models of intellectual capital properties, the area occupied by the indicator values can be calculated using the formula [10, c.310; 15, c.56;16, c.176]:

$$S = \frac{1}{2} \cdot \sin \frac{2\pi}{n} \cdot (a_1 \cdot a_2 + a_2 \cdot a_3 + ... + a_n \cdot a_1)$$

(3)

Where n is the number of indicators.

The results of the calculations of the areas are presented in Table 7:

Table 7

Assessment of the level of intellectual capital of Ukraine, 2019-2021

Years	intellectual capital	Including		
		human capital	organizational capital	consumer capital
2019	1,950	2,606544581	**2,67845319**	1,43
2020	1,953	2,703993992	2,57656302	1,46
2021	**2,03**	**2,725319574**	2,54	**1,56**
max	2,03	2,725319574	2,67845319	1,56

One of the key indicators of effective utilization of a country's intellectual capital is its economic potential and innovative development. To assess changes in the country's economic status, one can use one of the most widely used indicators, gross domestic product (GDP). The essence of the research lies in determining the impact of changes (dynamics) in the properties of the country's intellectual capital on GDP growth, in order to select optimal investment directions in individual components and achieve optimal development of the structural relationship of these intellectual capital components.

The analysis is conducted based on changes in indicator values from 2019 to 2021. To address this task, an assessment and analysis of the dynamics of intellectual capital properties in quantitative terms were carried out, comparisons were made, and influences on GDP [10, c. 302; 15, c. 59; 16, c.178] growth were identified. Applying statistical data for three years and following the concept of sequential actions, appropriate formulas were used to calculate indicators determining GDP growth, intellectual capital, and its structural elements, including:

1.The change in GDP dynamics was determined by the formula:

$$\Delta BB\Pi\% = \frac{BB\Pi_i - BB\Pi_{i-1}}{BB\Pi_{i-1}} \cdot 100\%$$

2.The increase in human, organizational, and consumer capital was determined using the anthological formula for each structural element of intellectual capital (IK) separately:

$$\Delta X\text{лк}_i\% = \frac{X\text{лк}_i - X\text{лк}_{i-1}}{X\text{лк}_{i-1}} \cdot 100\%$$

3.The average increase in indicators of human, organizational, and consumer capital was found using the formula:

$$\bar{X}\text{лк}\% = \frac{\sum\limits_{\frac{i=1}{n}} \Delta X\text{лк}_i\%}{n};$$

4.The coefficient reflecting the share of the increase in human, organizational, and consumer capital to the increase in GDP was calculated using the formula:

$$K_{\text{лк}} = \frac{\Delta X\text{лк}\%}{\Delta BB\Pi\%};$$

5.The coefficient determining the share of the increase in intellectual capital to the increase in GDP is calculated using the formula:

$$IK = \frac{\Delta IK\ \%}{\Delta BB\Pi\%}, \text{ де } \Delta IK – \text{average growth IK.}$$

The obtained results are presented in Table 8. Analyzing the data obtained, it is important to determine the impact of each component of intellectual capital on GDP growth. The main goal is to identify the optimal ratio of stimulating measures for improving the structure and regulating changes in the properties of intellectual capital, ensuring the most effective impact on improving the economic condition of the country, which is its subsystems.

Table 8

Analysis of intellectual capital and its properties

Indicators		Ukraine.		Growth coefficient %	Growth,%	
		2020	2021			
Human Capital	Knowledge Economy Index	5,65	7,73	0,368142	36,8	Average growth,%
	Economic Freedom Index	54,9	56,2	-0,023	-2,3	
	University Graduates	385,7	261,8	-0,32123	-32,1234	
	Happiness Index	4,88	5,08	0,040984	4,098361	
	Social Progress Index	71,2	75,78	0,064326	6,432584	
	Education Profitability	7,1	5,6	-0,21127	-21,1268	
	Human Development Index	0,775	0,773	-0,00258	-0,25806	
	Unemployment Rate	8,5	9,9	0,164706	16,47059	
	Population Living Standards Differentiation	2,2	2,1	-0,04545	-4,54545	
Organizational capital (2019-2020)	Number of innovation-active enterprises	782	809	0,034527	3,452685	1,052503
	GDP, million dollars	153781	155582	0,011711	1,171146	
	Corruption Perception Index	117	979	7,367521	736,7521	
	Patent applications	3852	3183	-0,17368	-17,3676	
	Patents for inventions	2255	2179	-0,0337	-3,37029	
	Prosperity Index	57,32	57,39	0,001221	0,122121	
	Gross external debt as a percentage of Ukraine's GDP	79,2	80,8	0,020202	2,020202	
Consumer capital	Number of subjects in the Unified State Register of Enterprises and Organizations by forms of ownership, per unit	1395448	1023548	-0,26651	-26,6509	13,67583
	Foreign direct investment into the country	17301,9	1437009	82,05498	8205,498	
	Gross domestic product per capita	1176	1366	0,161565	16,15646	
	Balance of trade (exports - imports)	-1,1	-1,1	0	0	
	Export of goods and services	39	40,7	0,04359	4,358974	
	Market capitalization of companies	3,59	3,01	-0,16156	-16,156	
Intellectual Capital 0,04						4%
GDP		156,6	200,1	0,277	27,7	27,7%

(GDP of $200.1 billion (2021))

To determine the significance and necessary share of the impact of human, structural, and consumer capital, we assume that the impact shares of all capitals are equal. Therefore, the calculation of the growth of intellectual capital occurs as the average value of all indicators used in the evaluation of capital components. However, the obtained value significantly deviates from the GDP growth in a lesser direction, indicating that the condition of equal returns from financing human, structural, and consumer capital does not provide an optimal return for GDP growth. Conducting an analysis of the data obtained about the magnitude of changes in each type of capital, let's assume that the greatest impact on improving the economic condition is achieved through the improvement of structural capital, while human capital has the least impact. Consumer capital, being an intermediate point, unites these two types of capital, contributing to the realization of human potential and supporting structural potential. It is important to emphasize the enhancement of structural components, such as innovative and social potential, as well as the improvement of all practical indicators in the structure of human capital. This can be achieved by developing appropriate strategies for the socio-economic development of the country, which are presented in Table 9. Using the MS Excel "Solver" function, we will determine the shares attributable to each type of capital, assuming that the growth of intellectual capital is optimal for GDP growth during this period. The results are as follows: the share of structural capital growth is 1.05%, consumer - 13.7%, human - -0.00026% (a decrease). This coefficient determines how much the growth of intellectual capital affects GDP growth. It can be considered as a percentage ratio between the growth of intellectual capital and the growth of GDP. If the coefficient is positive, it indicates that the growth of intellectual capital contributes to GDP growth. The higher this coefficient, the greater the impact of intellectual capital on economic development. On the other hand, if the coefficient is negative, this may indicate that the growth of intellectual capital does not lead to a corresponding increase in GDP. In this case, it may be necessary to consider strategies for increasing the efficiency of the use of intellectual capital or change approaches to its development. This coefficient is an important tool for assessing the efficiency of the use of intellectual capital in the context of economic growth.

Table 9

Shares of intellectual capital growth and country's GDP

Indicators	average growth,%
Intellectual Capital of the Country	4
GDP	27,7
The coefficient reflects the share of intellectual capital growth on GDP growth.	0,144

A coefficient value of 0.144 indicates that the growth of intellectual capital has a certain positive effect on the GDP growth of the country. This means that, on average, for each unit of intellectual capital growth, we can expect a GDP growth of 0.144 units. Although the coefficient is positive, its value is not very large, which may indicate that the efficiency of using intellectual capital could be improved to ensure a greater impact on economic development. It may be necessary to refine strategies for the development of intellectual capital or improve its utilization in specific sectors to achieve optimal results. It's also important to consider that this coefficient represents an average value for the period under review, and its interpretation should take this into account.

Conclusions

Based on the conducted research, it was established that overall, consumer capital predominates in the structure of intellectual capital. It is noted that human capital has a negative value, which requires significant adjustment to achieve its intensive growth. To achieve more effective and uniform development of other components, priority attention should be given to the development of human capital as a fundamental component. Only after this should the development of structural capital continue. This strategic direction of financial resources will optimize the structure of intellectual capital, promoting the accumulation of intellectual potential. Such an approach will be generative for the growth of the country's economic potential as a whole and its activity spheres.

The conclusions of the study provide a basis for defining a strategy for optimizing intellectual capital. By giving priority to the development of human capital, we have identified a key direction for achieving sustainable and effective growth.

It is noted that the importance of investing in education, health, and human potential development will be beneficial for the country not only in the context of increasing competitiveness but also in achieving sustainable economic development. This approach will not only improve the structure of intellectual capital but also make it more adaptable to the challenges of modernity.

Let's note the necessity of implementing a systematic and balanced approach to the development of intellectual capital, which will promote the harmonious development of the country's economy and ensure its stable position in the global economic environment. Additionally, in the context of current trends and directions, it is important to consider innovations and digital technologies as key catalysts for the development of intellectual capital. High-tech solutions, artificial intelligence, data analysis, and other aspects of digital transformation can effectively enhance the country's intellectual potential, making it more flexible and adaptable to contemporary challenges. It's also crucial to consider aspects of sustainable development, including environmental sustainability and social responsibility, as an important part of the intellectual capital optimization strategy. Taking these aspects into account will promote the formation of a more balanced and long-term development model that considers the needs of modern society and environmental challenges.

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ДІАГНОСТИКА ТРАНСФОРМАЦІЇ ВЛАСТИВОСТЕЙ ІНТЕЛЕКТУАЛЬНОГО КАПІТАЛУ В УКРАЇНІ

Анотація. В центрі уваги дослідження - аналіз трансформацій інтелектуального капіталу нації протягом періоду, що передує конфлікту. Визначаються і систематизуються сучасні методики оцінки інтелектуального капіталу, проводиться класифікація індикаторів з урахуванням їх впливу на загальний обсяг інтелектуального капіталу, а також впроваджується нормалізація даних індикаторів для побудови радіальних діаграм і визначення стану інтелектуального капіталу в Україні. Розглядається вплив змін в інтелектуальному капіталі на флуктуації валового внутрішнього продукту країни. **Методологія.** Для досягнення цілей дослідження застосовані різноманітні методики: діалектичний метод та синтез для аналізу еволюції людських, організаційних, структурних х капіталів; використання графічного аналізу для наглядного представлення даних; а також комплексний та структурний аналіз із застосуванням експертних оцінок для оцінки впливу трансформацій інтелектуального капіталу на економічні показники.

Наукова і практична значущість. Робота вносить вклад у розуміння впливу змін у структурі інтелектуального капіталу на динаміку ВВП, що є ключовим для розроблення ефективної стратегії управління інтелектуальними ресурсами країни. З практичної точки зору, дослідження сприяє формуванню критеріїв для оцінки інтелектуального капіталу та розробці мотиваційних механізмів, заснованих на використанні цифрових інновацій та штучного інтелекту, для оптимізації структури інтелектуального капіталу, що відкриває шлях для розробки стратегії його вдосконалення.

Keywords: інтелектуальний капітал, цифровізація, структурний капітал, споживчий капітал, людський капітал, оцінка, трансформації, властивості

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