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**THE OPTIMIZATION OF THE MANAGEMENT MECHANISM OF THE  
INTELLECTUAL CAPITAL OF UKRAINE**

*In this article the basic trends in the development of human, structural and market capitals of Ukraine were investigated. It was represented a comprehensive approach to the evaluation of the development level of the intellectual capital of the state, which provides a synthesis of the partial indicators' set based on their significance. In this article a multifactor correlation-regression model of the intellectual capital of Ukraine was built, the main determinants of its changes were determined and the main ways of the management process optimization of the intellectual capital of Ukraine were formed.*

Keywords: intellectual capital, correlation-regression analysis, integral indicator, human capital, structural capital, market capital.

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**Formulation of the problem.** The modern development of the global economy is defined by intensive growth of intellectualization of labor and means of production, which allows creating new high-quality competitive products and services with the high share of added value. The determinant in the link of such products creation is knowledge and the bearer of this knowledge is the intellectual capital of the country. In order to ensure a high efficiency of the management mechanism of this complex object in the conditions of dynamic external environment and internal instability, an important task is to create the most adequate and accurate approach to the intellectual capital assessment. It will provide an opportunity to analyze trends in the development of the human, structural and market capitals of the country, identify the main problem areas, and form an effective measures system to optimize the processes of intellectual capital formation and using.

**Analysis of recent researches and publications.** Many scientists have devoted their researches to solving the general problems of the intellectual capital management, among them are the following: L. Edvinsson [27], L. Prusak [28], J. Roos [29], T. Stewart [31] and P. Sullivan [32].

Ukrainian scientists also pay a considerable attention to studying the essence, structure, features of the intellectual capital formation and using at micro and macro levels. Among them are O.B. Butnik-Siverskyi [4], O.I. Drahan [12], Yu.O. Yereshko [6], S.M. Illyashenko [8], O.V. Kendyukhov [10], O.M. Kovalenko [12], who investigate the main theoretical aspects of this difficult economic category. A.H. Zharinova [7], A.V. Karpenko [11], D.O. Sedlyar [22] focus on approaches to the intellectual capital assessment as a determining factor for increasing the national economy competitiveness. The authors form comprehensive systems of macroeconomic indexes that indicate the level of development of all structural components of the country's intellectual capital.

**The emphasis of unsolved aspects of the general problem.** Despite the fact that the selected problem is well-studied, the management mechanism of the intellectual capital of the country as one of the most important factors for competitiveness raising and for successful innovative development of the national economy requires further development and optimization.

**The aim of this article** is to develop the key recommendations for optimizing the management mechanism of the intellectual capital of Ukraine taking into account the main determinants of its structural components development.

**Basic material.** For the first time the term "intellectual capital" was proposed by John Kenneth Galbraith in 1969 as the concept which included human intelligence and explained its impact on the various activities of society [3].

There are various points of view regarding the interpretation of the "intellectual capital" concept today. Scientists fill this concept with different content; distinguish different parts and components in its structure.

Thus, D. Andriessen defines the intellectual capital as "all intangible resources which are available in the country or region and give a relative advantage, and which in aggregate are able to produce future benefits" [19; 26].

Lehenchuk S.F. and Banasko T.M. define the relationship of such concepts as the intellectual capital, intangible assets and goodwill, focusing on the emergence of synergetic effects in the process of investing in the intellectual capital [2; 14].

Leontiev B. defines the intellectual capital as "the totality of existing legal rights of the subject to the results of his creative activity, his natural and acquired intellectual abilities and skills, accumulated knowledge bases and useful relationships" [12; 15].

Thus, in our opinion, the country's intellectual capital is a totality of labor resources' knowledge, skills and abilities, production experience, the basis of national economy modernization and the knowledge-intensive industries development, the positive attitude of the permanent partners, the stability of communication with the external environment regarding the implementation of the abilities to innovate and intensify innovation development, the most important determinant of the positive innovative image formation of the state.

The major structural elements of the national economy's intellectual capital are structural, market and human capitals. It should be noted that under conditions of globalization and high competition the human resource is the most valuable and most perspective component for the national economy development. According to the World Economic Forum in 2016 Ukraine ranked the 26-th place among 130 countries by the Human Capital Index, it's better than in the past year by 5 points [21]. By several parameters Ukraine received world's primacy in the rating or won a place in the top ten. Strong positions of our country are connected with the educational direction [1; 33]. From 1990 till 2009 the number of universities in Ukraine grew from 149 to 353, from 2010 till 2016 there has been a downward trend of the

number of higher education institutions (Figure 1) [18].

In recent years the Ukrainian society spends about 7,0% of GDP from public and private sources for education. It corresponds to the best international practice. For comparison, the countries of the Organization for Economic Cooperation and Development spend in average near 6,0 % of their GDP [1; 18]. However, in terms of GDP per capita Ukraine is among the group of countries with the level of social development “below average” [30].

Traditionally the high educational level of the workforce in Ukraine combines with low wages. Ukraine is behind the EU's poorest countries for the level of the minimum wage. The statistics analysis shows that the existence and dynamics of the wages arrears is the negative feature of the wages' motivational mechanism in the context of achieving an adequate level of the intellectual capital development. At the beginning of January 2017 the volume of unpaid wages amounted to 3,4 % of the wage bill, accrued for December 2016.

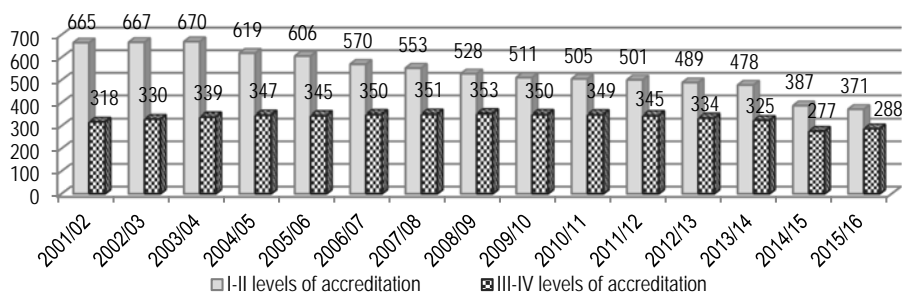


Figure 1 – Dynamics of the number of higher education institutions in Ukraine for the period since 2001 to 2016 [18]

At the same time, the ratio of the nominal and real wages growth rate suggests the lagging of the pace of real wage growth almost throughout the all study period that also covers the factors which break the employees' material incentives (Figure 2).

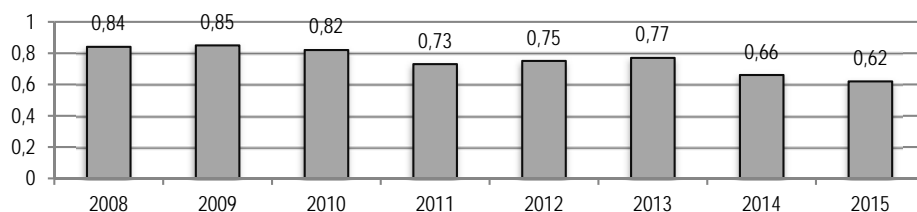


Figure 2 – Dynamics of the indexes of the real and nominal wage in Ukraine (to the previous year), % [5]

The current inconsistency between the development of the human capital and the standard of living encourages the outflow of highly skilled professionals abroad. There is also a tendency to reduce the total number of those employees of organizations, who carry out the scientific and technological works. The number of the scientific organizations' employees has decreased by almost 28% since 2010 [5].

A significant negative factor of the maximal realization of the intellectual capital of Ukraine is the low level of the science financial capacity indicators that leads to further strengthen of the technological backwardness of the Ukrainian economy from the world leading economies. In 2015 the total expenditures on scientific research and development as a share of GDP (research intensity of GDP) was 0,62%, including 0,21% from the state budget (Figure 3). In 2016 expenditures on scientific research decreased to 0,718% of GDP. For comparison – in the countries of EU the indicator of GDP research intensity is 1,9% on average, in Finland and Sweden – 3,7%, in the USA and Germany – 2,7% [16].

The problems of human capital development correspondingly effect the development of the market and structural components of the country's intellectual capital. Thus, according to the criterion of the share of enterprises engaged in the innovation activity, Ukraine is almost 1,5 times behind Latvia (17,4%) and Bulgaria (18,0%), 5 times behind the Netherlands (62%) and Austria (67%) and more than 6 times behind the leader – Ireland (74%) [16].



*Figure 3 – Dynamics of research intensity of GDP of Ukraine in 2008-2015 [33]*

In 2015 824 domestic industrial enterprises (17,3%) were engaged in the innovation activity. Thus 26,8% of the total number of innovation active enterprises carried out the internal and external R&D, 56,7% – purchased the machinery, equipment and software, 3,9% – purchased the external knowledge, 25,5% – performed other activities. This trend indicates a low level of domestic businesses' inventive activity and their focus on the introduction of finished projects and ideas, not on the development of the innovative and rationalization abilities. In 2015 the number of innovative products implemented at the Ukrainian industrial enterprises decreased by 14,34% and the number of new technological processes decreased by 30,18% (Table 1) [9].

*Table 1 – Dynamics of innovations implemented at the industrial enterprises of Ukraine in 2009-2015 [5; 18]*

Years	Implementation of the innovative products, description	Absolute deviation, +/-	Relative deviation (growth rate), %	Implementation of the new technological processes	Absolute deviation, +/-	Relative deviation (growth rate), %
2009	2685	-	-	1893	-	-
2010	2408	-277	-10,32	2043	150	7,92
2011	3238	830	34,47	2510	467	22,86
2012	3403	165	5,10	2188	-322	-12,83
2013	3138	-265	-7,79	1576	-612	-27,97
2014	3661	523	16,67	1743	167	10,60
2015	3136	-525	-14,34	1217	-526	-30,18

Accordingly, the share of sold innovative products in the total volume of domestic industrial production is characterized by the steady trend of decrease. In 2015 the number of applications for getting the titles of protection for the subjects of industrial property in Ukraine increased by 8,34%, although in 2014 there was the significant decrease of this indicator (by 17,18%) (Table 2) [20; 23].

*Table 2 – Dynamics of the number of applications for getting the titles of protection for the subjects of industrial property in 2011-2015 [20; 23]*

Indicator	2011	2012	2013	2014	2015
The received amount	47202	49081	53600	44391	48091
Absolute deviation, +/-	-	1879	4519	-9209	3700
Relative deviation (growth rate to the previous year), %	-	3,98	9,21	-17,18	8,34

According to the report "World Intellectual Property Indicators 2015", in 2014 Ukraine appeared in the group of leaders (21-st place) among more than 140 countries by the generalized indicator of activity of applications submission for the industrial property subjects by country of origin. It should be mentioned that in recent years the applications for receiving the certificates for trademarks have made the main amount of applications: 62,01% in 2014 and 68,4% in 2015, while the share of applications for patents has been about 10%.

In order to determine the general level of country's intellectual capital as a result of human, structural and market capitals fusion it is proposed to calculate the integral indicator "Intellectual Capital of Ukraine". The calculation algorithm of the overall index consists of the following stages:

1. The formation of an indicators system that reflect in the best way the dynamics of the main structural components (human, structural and market capitals) of the national economy's intellectual capital;

2. The standardization of selected indicators to ensure their comparability. Among the existing methods of indicators' standardization it is reasonable to use such method, which is based on deviations ( $x_{ij} - a$ ) and standardization by the variation scale ( $\max X_{ij} - \min X_{ij}$ ) taking into account the nature of the impact (direct or inverse) of the indicator on the resulting, integrated indices [25]:

– for the indices stimulators:

$$Y_{ij} = \frac{(X_{ij} - \min X_{ij})}{(\max X_{ij} - \min X_{ij})}, \quad (1)$$

where  $Y_{ij}$  – the standardized  $i$ -indicator in  $j$ -totality;  $X_{ij}$  – the value of the  $i$ -indicator in  $j$ -totality;  $\min X_{ij}$  – minimum value of the  $i$ -indicator;  $\max X_{ij}$  – maximum value of the  $i$ -indicator.

– for the destimulators:

$$Y_{ij} = \frac{(\max X_{ij} - X_{ij})}{(\max X_{ij} - \min X_{ij})}. \quad (2)$$

3. the calculation of the integral index as the sum of generalized coefficients for structural components of the intellectual capital, adjusted for the value of the weight coefficients of each of them:

$$I_{IK} = 0,4 \cdot I_{HC} + 0,3 \cdot I_{SC} + 0,3 \cdot I_{MC}, \quad (3)$$

where  $I_{HC}$ ,  $I_{SC}$ ,  $I_{MC}$  – general indicators of human, structural and market capitals, respectively which were calculated as the simple average based on the equivalence of all selected indicators.

The weighting factors for the structural elements of the intellectual capital were determined using the expert method. In order to provide an integral evaluation of the intellectual capital of Ukraine the system of indicators based on its structural components was created (Table 3). Thus, the component "human capital", which is a combination of labor resources knowledge and professional skills, is represented by the set of indicators that demonstrate the personnel education and qualification level.

*Table 3 – Source data for the calculation of the integral indicator "Intellectual Capital of Ukraine" (built by authors based on [5; 18; 20])*

Groups of indices	Indices	2010	2011	2012	2013	2014	2015
1	2	3	4	5	6	7	8
Human capital	Number of students at universities, thousand people	2491,3	2311,6	2170,1	2052,7	1689,3	1605,3
	Number of employees of scientific organizations, thousand people	141,1	134,7	129,9	123,2	109,6	101,6
	Number of scientists, thousand people	89564	84969	82032	77853	69404	63864
	Number of performers of scientific and technological works with PhD, thousand people	4,5	4,4	4,5	4,5	4,3	4,1
	Number of graduate students, people	34653	34192	33640	31482	27622	28487
	Number of doctoral candidates, people	1561	1631	1814	1831	1759	1821
Structural capital	Amount of performed scientific and technological works in the actual prices, million UAH	9867,1	10349,9	11252,7	11781,1	10950,7	12611
	Number of protective titles that have been received	7748	8757	8552	8432	7864	7334
	Number of protective titles that have been received from the patent authorities of foreign countries	84	72	86	72	62	27
	New technologies that have been bought, total amount	707	872	739	651	543	1131
	New technologies that have been delivered, total amount	5	43	29	33	36	118
Market capital (innovative activity)	New technological processes that have been introduced	2043	2510	2188	1576	1743	1217
	Innovative types of products that have been introduced, descriptions	2408	3238	3403	3138	3661	3136
	Specific weight of sold innovative products in volume of industrial, %	3,8	3,8	3,3	3,3	2,5	1,4
	Specific weight of enterprises, which took part in the innovation activity, %	13,8	16,2	17,4	16,8	16,1	17,3
	Total amount of innovation expenditures, million UAH	8045,5	14333,9	11480,6	9562,6	7695,9	13813,7

The structural capital covers the country's internal attainments, innovation development experience, and the formed technical and technological basis for further domestic economy modernization. Accordingly, this component is represented by a set of indicators demonstrating the development of the scientific and technical base and the system of intellectual property in the country.

The component "market capital" reflects the achieved level of innovation activity as the country

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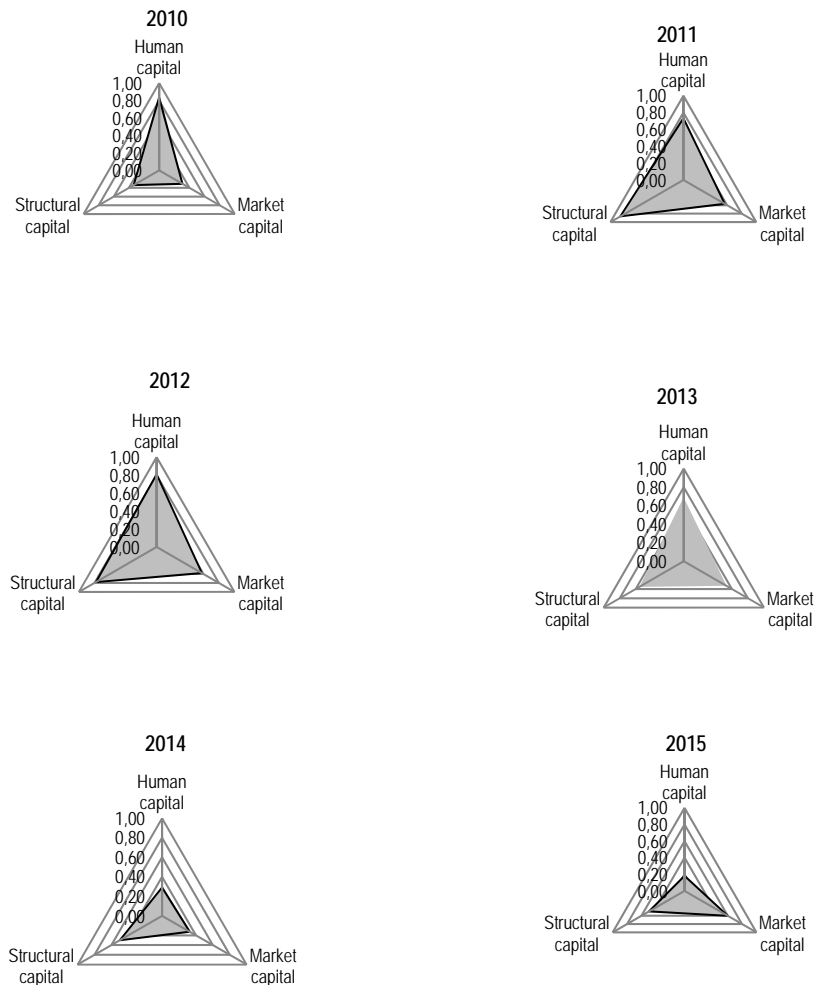
image indicator. So, this intellectual capital's structural element is represented by indicators which reflect the readiness of the state to participate in international innovation relations, the perspectives of forming the country's reputation not only as a consumer of the latest products and technologies, but as their potential producer.

The results of calculation of integral index "Intellectual Capital of Ukraine" are presented in the Table 4 and on the Figure 4.

*Table 4 – Results of calculation of the integral indicator "Intellectual Capital of Ukraine"*

Groups of indices	Indices	max	min	max-min	2010	2011	2012	2013	2014	2015
Human capital	Number of students at universities, thousand people	2491,3	1605,3	886	1	0,80	0,64	0,50	0,09	0
	Number of employees of scientific organizations, thousand people	141,1	101,6	39,5	1	0,84	0,72	0,55	0,20	0
	Number of scientists, thousand people	89564	63864	25700	1	0,82	0,71	0,54	0,22	0
	Number of performers of scientific and technological works with PhD, thousand people	4,5	4,1	0,4	1	0,75	1	1	0,50	0
	Number of graduate students, people	34653	27622	7031	1	0,93	0,86	0,55	0	0,12
	Number of doctoral candidates, people	1831	1561	270	0	0,26	0,94	1	0,73	0,96
<b>Overall index</b>					<b>0,83</b>	<b>0,73</b>	<b>0,81</b>	<b>0,69</b>	<b>0,29</b>	<b>0,18</b>
Structural capital	Amount of performed scientific and technological works in the actual prices, million UAH	12611	9867,1	2743,9	0	0,18	0,50	0,70	0,39	1
	Number of protective titles that have been received	8757	7334	1423	0,29	1	0,86	0,77	0,37	0
	Number of protective titles that have been received from the patent authorities of foreign countries	86	27	59	0,97	0,76	1	0,76	0,59	0
	New technologies that have been bought, total amount	1131	543	588	0,28	0,56	0,33	0,18	0	1
	New technologies that have been delivered, total amount	118	5	113	0	0,34	0,21	0,25	0,27	1
<b>Overall index</b>					<b>0,31</b>	<b>0,57</b>	<b>0,58</b>	<b>0,53</b>	<b>0,33</b>	<b>0,60</b>
Market capital (innovative activity)	New technological processes that have been introduced	2510	1217	1293	0,64	1	0,75	0,28	0,41	0
	Innovative types of products that have been introduced, descriptions	3661	2408	1253	0	0,66	0,79	0,58	1	0,58
	Specific weight of sold innovative products in volume of industrial, %	3,8	1,4	2,4	1	1	0,79	0,79	0,46	0
	Specific weight of enterprises, which took part in the innovation activity, %	17,4	13,8	3,6	0	0,67	1	0,83	0,64	0,97
	Total amount of innovation expenditures, million UAH	14333,9	7695,9	6638	0,05	1	0,57	0,28	0	0,92
<b>Overall index</b>					<b>0,34</b>	<b>0,87</b>	<b>0,78</b>	<b>0,55</b>	<b>0,50</b>	<b>0,49</b>
<b>Integral indicator «Intellectual capital of Ukraine»</b>					<b>0,53</b>	<b>0,72</b>	<b>0,73</b>	<b>0,60</b>	<b>0,36</b>	<b>0,40</b>

Based on the results of the calculations we concluded that the integral indicator of the intellectual capital in Ukraine was characterized by positive dynamics during 2011-2012. But since 2013 it has been characterized by negative changes as a result of worsening of general social and economic situation in the country, political instability, external aggression, the beginning of a hybrid war in the east of the country.



*Figure 4 – Graphic presentation of dynamics of the structural components of the intellectual capital of Ukraine during 2010-2015*

In order to make the qualitative characteristics of the calculated integral indicators we developed the linguistic evaluation scale which was the result of the adaptation of well-known Harrington's scale (Table 5) [25].



Table 5 – Scale of qualitative evaluation of the integral indicator of the level of the intellectual capital of Ukraine (built by authors based on [25])

The value of the integral indicator of "Intellectual capital of Ukraine"	The level of the intellectual capital
[0; 0,2]	Critical
(0,2; 0,45]	Low
(0,45; 0,65]	Acceptable
(0,65; 0,8]	Satisfactory
(0,8; 1]	High

In 2010 the level of the intellectual capital of the country was acceptable, in 2011 and 2012 – satisfactory, in 2013 – acceptable, and in 2014 and 2015 – low. Thus, the current conditions of forming the intellectual capital of Ukraine are rather complicated. There are a lot of unsettled challenges, among them – the formation of the atmosphere of general interest in the work of intellectuals [13], the transition of educational systems to a new level of work to realize the individual needs and desires, the personality development, the improving of welfare and quality of people's life, the development of national projects in the sphere of introducing the management technologies and social innovations, the intensive development of the perspective domestic branches of science, the ensuring the effective links between science and economy.

In order to identify the key indicators that determine the level of development of the intellectual capital of the country, it is advisable to build a correlation-regression model. The original basis for this model was formed on basis of the information space reduction to a minimum by using the cluster analysis and identification of the most significant indicators using the principal components method. As the result of their processing we obtained the regression models of the relation between the indicator of the sold innovative production in the volume of industrial, which was chosen as an indicator of development and efficiency of the usage of intellectual capital of the country, and the indicators which are reflecting the level of human, structural and market capitals of Ukraine. The developed model will be:

$$I_{ip} = f(N_{sc}; N_{ip}; DIF), \quad (4)$$

where  $I_{ip}$  – the specific weight of sold innovative products in the volume of industrial, %;  $N_{sc}$  – growth rate of the number of scientists, %;  $N_{ip}$  – growth rate of the number of new technological processes which have been implemented, %;  $DIF$  – growth rate of foreign direct investment in Ukraine, %.

As a result of the analytical procedures, a set of indicators for constructing the regression model was developed. At the same time the index "the proportion of realized innovation products in the volume of industrial products" was selected as an independent variable, an indicator of the efficiency of using the intellectual capital of the country. This indicator reflects not only the development of science and innovation activity in the country, but also the ability to implement innovative ideas in life, as well as successfully monetize them, creating added value. And this is the main goal of intellectual capital development and realization. Three indexes were identified as independent variables. First of them is "the rate of growth of the number of scientists". First of all, it reflects the development and efficiency of the human capital using. The availability of sufficient scientific and human potential is one of the most important factors of the country's innovation development, generation of knowledge and innovative ideas and their successful implementation.

The growth rate of the new technological processes number, which have been implemented, reflects the efficiency of the intellectual capital using and at the same time determines the sufficiency of the existing technical and technological base for further innovation development of the national economy.

The dynamics of foreign direct investment in Ukraine reflects the benefits of the state and of the investment climate innovative image. At the same time the foreign investment of property and non-property values is an essential source for financing the implementation of scientific and technological progress in production and social spheres.

Outgoing data for the creation of the regression model of dependence of the level of the intellectual capital of Ukraine on indicators of its structural, market and human capitals development is shown in the Table 6.

*Table 6 – Outgoing data for the creation of the multifactor correlation-regression model of development of the intellectual capital of Ukraine under the influence of the variable factors (calculated on the basis of [5; 18])*

Years	The specific weight of sold innovative products in the volume of industrial, %	Growth rate of the number of scientists, %	Growth rate of the number of new technological processes which have been implemented, %	Growth rate of foreign direct investment in Ukraine, %
	Y	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>
2003	5,6	97,57	129,77	120,12
2004	5,8	101,68	116,53	124,17
2005	6,5	98,98	104,69	133,15
2006	6,7	95,01	63,33	186,69
2007	6,7	96,58	123,93	127,93
2008	5,9	97,23	116,07	136,73
2009	4,8	98,16	114,94	120,56
2010	3,8	96,93	107,92	112,46
2011	3,8	94,87	122,86	111,87
2012	3,3	96,54	87,17	112,34
2013	3,3	94,91	72,03	109,86
2014	2,5	89,15	110,60	105,17
2015	1,4	92,02	69,82	78,66

For the automation of calculations we used the modern software package for statistical analysis STATISTICA 7.0.

The calculated parameters of the correlation-regression model of the level of development of the intellectual capital of Ukraine under the influence of the variable factors system are represented in the Table 7.

*Table 7 – The multifactor correlation-regression model of development of the intellectual capital of Ukraine under the influence of the system of variable factors*

Y – the specific weight of sold innovative products in the volume of industrial, %	Coefficients	Standard error	t (9), t <sub>tabl</sub> = 2,2622	p
Free member – X <sub>0</sub>	-21,1311	5,867851	-3,60116	0,005738
X <sub>1</sub>	0,1780	0,067538	2,63509	0,027131
X <sub>2</sub>	0,0230	0,008976	2,56063	0,030655
X <sub>3</sub>	0,0517	0,008097	6,38102	0,000128
Regression statistics:	Multiple correlation coefficient R = 0,9493	The coefficient of determination R <sup>2</sup> = 0,9011	Rationed R <sup>2</sup> = 0,8682	The average error of approximation = 0,62806
	F <sub>calc</sub> (3, 9) = 27,340	F <sub>tabl</sub> (3, 9) = 3,86		

Thus, according to the results of modeling we can confirm with 95 % certainty that the level of development and efficiency of the intellectual capital of Ukraine is most affected by the defined variables:

$$Y = -21,1311 + 0,178 \cdot X_1 + 0,0230 \cdot X_2 + 0,0517 \cdot X_3. \quad (5)$$

The meaning of the coefficient of determination shows that the dispersion of the resulting index can be explained at the level of 90,11 % by the factors of the model. The correlation coefficient is close to 1 ( $R = 0,9493$ ). This confirms the close links between the factors of the model and the dependent variable (Y).

Accordingly, the main components of the development and improvement of the realization effectiveness of the intellectual capital of Ukraine should be (Figure 5):

- strengthening of the innovation and investment activities, in particular attracting foreign and government investment in the formation and development of the intellectual capital, which is associated with providing long-term economic development;
- carrying out the active state policy on the labor market to maintain employment, increase labor mobility, create new jobs in high technology sectors of the national economy [24];
- solving the task of financial resources optimizing, their reasonable distribution between the levels of education and the funds' effective usage with regard to the availability and quality of education, improving social security and creating favorable conditions for the development of the intellectual capital in the country;
- integration with the international scientific community and building a stable regulatory system to support innovation and investment and to provide the efficient management of the intellectual capital of Ukraine.

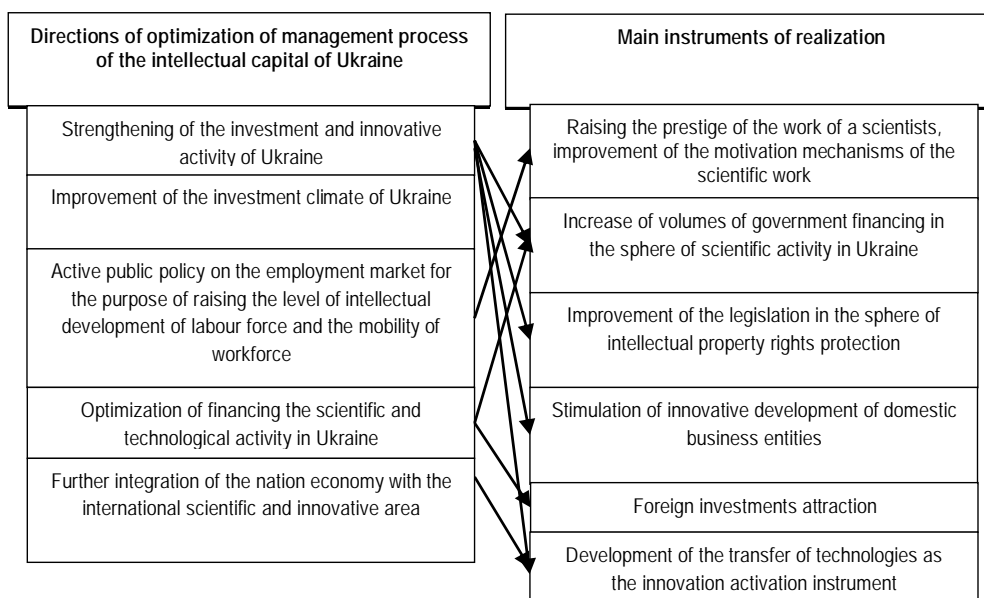


Figure 5 – Main ways of optimization of management process of the intellectual capital of Ukraine (authors' development)

**Conclusions.** Thus, the key for the national economy moving to the stage of recovery and ensuring the further innovatization of all spheres of economic activity is the development and effective usage of the intellectual capital. The results of performed investigations show that there are many problems which prevent the successful implementation of the structural components of the intellectual capital in Ukraine. Despite the high level of human capital development, which appears in the level of education, professionalism and competence of the labour force, there are some social and economic problems that create obstacles to the further intellectualization of the national economy. They are: the lack of the state support for science, undeveloped investment and innovation infrastructure, the significant gap between the stages of cycle of scientific knowledge transformation in the final product, the low level of wages, political and legislative instability. The created correlation-regression model demonstrates the high conditionality of the national intellectual capital development level by the dynamics of such determinants as the number of native scientists, the volume of performed scientific and technological works, the introduction of new technological processes by business entities, the sum of innovation expenditures for the own costs, foreign direct investment in Ukraine. Based on the results of the performed researches we identified the main vectors for the optimization of the management mechanism of the intellectual capital of the country. They are the following: the raising of the prestigiousness of the job of scientists, the improvement of the scientific activity motivation mechanisms, the strengthening of the government support for the scientific and technological activity, the development of the intercompany, external and international technologies transfers system, the improvement of the investment climate in Ukraine.

The main areas for further researches are the development of approaches to the country's intellectual capital management in terms of changing environment, and the issues concerning of the increasing the opportunities of the innovation image of Ukraine.

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#### Оптимізація механізму управління інтелектуальним капіталом України

У статті досліджено основні тенденції розвитку людського, структурного та ринкового капіталів України. Сформовано комплексний підхід до оцінювання рівня розвитку інтелектуального капіталу держави, що передбачає синтез набору часткових показників-індикаторів з урахуванням їхньої значимості. Побудовано багатofакторну кореляційно-регресійну модель розвитку інтелектуального капіталу України та визначено основні детермінанти його змін: сформовано основні шляхи оптимізації процесу управління інтелектуальним капіталом України.

Ключові слова: інтелектуальний капітал, кореляційно-регресійний аналіз, інтегральний показник, людський капітал.

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#### Оптимизация механизма управления интеллектуальным капиталом Украины

В статье исследованы основные тенденции развития человеческого, структурного и рыночного капиталов Украины. Сформирован комплексный подход к оценке уровня развития интеллектуального капитала страны, который предполагает синтез набора частных показателей-индикаторов с учетом их значимости. Построена многофакторная корреляционно-регрессионную модель развития интеллектуального капитала Украины и определены основные детерминанты его изменений; сформированы основные пути оптимизации процесса управления интеллектуальным капиталом Украины.

Ключевые слова: интеллектуальный капитал, корреляционно-регрессионный анализ, интегральный показатель, человеческий капитал.

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