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**PROBLEMS OF FORMATION OF
INTELLECTUAL CAPITAL AND
THEIR INFLUENCE ON
INNOVATIVE DEVELOPMENT
OF ENTERPRISES**

**ПРОБЛЕМИ ФОРМУВАННЯ
ІНТЕЛЕКТУАЛЬНОГО
КАПІТАЛУ ТА ЇХ ВПЛИВ НА
ІННОВАЦІЙНИЙ РОЗВИТОК
ПІДПРИЄМСТВ**

Urgency of the research. The importance of formation of intellectual capital and its rational use in order to increase the competitiveness of enterprises is increasing.

Target setting. The analysis of innovative activity of domestic enterprises shows that there are significant problems connected with the lack of effective management of intellectual capital of enterprises.

Actual scientific researches and issues analysis. The theoretical aspects of the formation of intellectual capital were researched by leading scholars: V. Heyets, O. Grishnov, O. Kendiukhov, O. Kuzmin, and others.

Uninvestigated parts of general matters defining. Further research directed

Актуальність теми дослідження. Зростає значення формування інтелектуального капіталу та його раціонального використання з метою підвищення конкурентоспроможності підприємств.

Постановка проблеми. Аналіз інноваційної активності вітчизняних підприємств свідчить про наявність суттєвих проблем, пов'язаних з відсутністю ефективного управління інтелектуальним капіталом підприємств.

Аналіз останніх досліджень і публікацій. Теоретичні аспекти формування інтелектуального капіталу досліджували провідні вчені: В. Геєць, О. Грішнова, О. Кендюхов, О. Кузьмін та ін.

Виділення недосліджених частин загальної проблеми. Потребують

to the formation of the components of the intellectual capital of enterprises are necessary.

The research objective. The purpose of the article is to study the trends in the formation of intellectual capital and their impact on the innovative development of domestic enterprises.

The statement of basic materials. The research conducted revealed the presence of negative tendencies in the formation and use of the components of the intellectual capital of the enterprise: personified, technological, infrastructural, clients', branded. There is a decline in the number of specialists capable to carry out scientific research and implement innovative developments. The number of registered security documents for inventions and utility models reduced. These processes have inhibited the innovation activity of domestic enterprises. Negative influence on these processes also has a limited source of funding for innovation activities.

Conclusions. The problem of the formation of individual components of intellectual capital directly depends on the financial capabilities of the company, which in today's crisis conditions is significantly limited. The state support for these processes through the formation of appropriate legislative, tax, credit, infrastructure support

додаткового дослідження напрямки формування складових інтелектуального капіталу підприємств.

Постановка завдання. Метою статті є дослідження тенденцій у формуванні інтелектуального капіталу та їх вплив на інноваційний розвиток вітчизняних підприємств.

Виклад основного матеріалу. Проведене дослідження виявило наявність негативних тенденцій щодо формування та використання складових інтелектуального капіталу підприємства: персоніфікованого, техніко-технологічного, інфраструктурного, клієнтського, марочного. Спостерігається зниження кількості фахівців, спроможних здійснювати наукові дослідження та реалізувати інноваційні розробки. Зменшується кількість зареєстрованих охоронних документів на винаходи і корисні моделі. Ці процеси призвели до гальмування інноваційної активності вітчизняних підприємств. Негативний вплив на зазначені процеси має також обмеженість джерел фінансування інноваційної діяльності.

Висновки. Проблема формування окремих складових інтелектуального капіталу напряму залежить від фінансових можливостей підприємства, які в сучасних кризових умовах значно обмежені. Необхідна державна підтримка зазначених процесів

for the processes of formation of intellectual capital of enterprises is necessary

шляхом формування відповідного законодавчого, податкового, кредитного, інфраструктурного забезпечення процесів формування інтелектуального капіталу підприємств.

Keywords: *intellectual capital; innovation; personalized capital; inventions; sources of funding.*

Ключові слова: *інтелектуальний капітал; інновації; персоніфікований капітал; винаходи; джерела фінансування.*

Urgency of the research. The world economy is developing today under the direct influence of innovative changes that leads to the rapid emergency of the latest basic technologies, qualitatively new products and forms new consumer needs.

Studies show, that national economic systems focused on activating innovation activity have the ability to develop more dynamically and more flexibly respond to changes of the environment compared to the production-oriented economic systems [1, p. 26].

In today's conditions of intensification of scientific and technological progress, the processes of formation of intellectual capital and its rational use to increase the competitiveness of enterprises and their integration into the world of innovative processes are important for the domestic economy.

Target setting. Innovative development of enterprises depends on many factors, an important place among which belongs to intellectual capital. In turn, intellectual capital is a multi-faceted economic concept, which requires research, taking into account the peculiarities of the development of the economy of a particular country. The processes of the formation of intellectual capital at domestic enterprises in our time are largely unsystematic in nature. Therefore, it

is necessary to develop theoretical and methodological approaches to efficient management of these processes.

Actual scientific researches and issues analysis. Such well-known foreign scientists as A. Broking, P. Drucker, L. Edvinsson, I. Roos, M. Melon and others have made a significant contribution to the study of the theoretical foundations of the formation of intellectual capital. The theoretical and methodological aspects of the formation of intellectual capital were also investigated by Ukrainian scientists: V. Heyets, A. Grishnova, A. Kendiukhov, A. Kuzmin, A. Kolot, P. Tsybulov and others.

Uninvestigated parts of general matters defining. While appreciating the contribution of the above-mentioned scientists, we would like to point out that there is a need for further research on the methodological aspects of justifying the directions of the formation of intellectual capital of domestic enterprises, since this issue has not been disclosed sufficiently.

The research objective. The purpose of the article is to study the trends in the formation of intellectual capital and their impact on the innovative development of domestic enterprises.

The statement of basic materials. Intellectual capital is "... capable to create a new value of the intellectual resources of the enterprise represented by human and machine intelligence, as well as intellectual products produced independently or from other sources (purchased, leased) as a means of creating a new value" [2, p. 37].

O. Kendiukhov distinguishes the following types of intellectual capital on a functional basis: "... personified, techno-technological, infrastructural, client, branded. Personified - work-related knowledge and skills, creative abilities, education, professional qualifications, loyalty, value installation of personnel, psychometric characteristics.

Techno-technological - inventions, utility models, industrial models, patents, production secrets (know-how), design rights.

Infrastructural - information technologies, databases, organizational structure, philosophy of management, corporate culture, business cooperation.

Client Capital - Relations with Customers, Contracts, Orders, Franchises, License Agreements.

Marginal capital - trademarks, corporate brands, service brands "[2, p. 53-54].

We agree with the opinion of the researcher that, despite the diversity of types of intellectual capital, personalized intellectual capital acquires special significance, "... since the creation of new technologies, inventions, new brand-projects are based on human intelligence" [2, p. 54].

Therefore, it is important to analyze the existing trends in the use of specialists in the innovative development of enterprises. During 2012-2016 there is a tendency towards a decrease in the number of employees involved in the implementation of research and development:

Table 1

The number of employees involved in the research and development in Ukraine, by categories of personnel, number of people

Indicators	2012	2013	2014	2015	2016	Rate of growth from 2016 till 2012, %
In total	164340	155386	136123	122504	97912	- 40,42
including: -researchers	122106	115806	101440	90249	63694	-47,84
-technicians	15509	14209	12299	11178	10000	-35,52
-supporting staff	26725	25371	22384	21077	24218	-9,38
Including those who have a scientific degree -Doctor of Science	11172	11155	9983	9571	7091	-36,53
-PhD	42050	41196	37082	32849	20208	-51,94

Source: Based on [3]

The analysis of the table shows a significant decrease in the total number of employees engaged in research and development during the period under investigation (by 40.42%) and the decline is also seen in certain categories of personnel.

In addition, the number of specialists with a scientific degree and participating in scientific research and development has significantly decreased: the number of doctors of sciences - by 36.53%, the number of candidates of sciences - by 51.94%.

Table 2 shows the structure of employees involved in the implementation of research and development.

Table 2

The structure of employees involved in the implementation of research and development, by categories of personnel, %

Indicators	2012	2013	2014	2015	2016
In total	100,0	100,0	100,0	100,0	100,0
including:					
-researchers	74,30	74,53	74,52	73,67	65,05
-technicians	9,44	9,14	9,04	9,12	10,21
-supporting staff	16,26	16,33	16,44	17,21	24,74
Including those who have a scientific degree					
-Doctor of Science	6,80	7,18	7,33	7,81	7,24
-PhD	25,59	26,51	27,24	26,81	20,64

Source: Based on [3]

Analysis of Table 2 shows that there is a negative tendency in the proportion of researchers and candidates in the structure of employees involved in innovation activities.

The indicated tendencies show the existence of the problem as for the formation of personalized intellectual capital of enterprises in Ukraine, which manifests itself, first of all, in reducing the number of specialists capable to carry out scientific research and to implement innovative developments. Such conclusions are confirmed by the data presented in Table 3.

Table 3

Indicators of registration of security documents for industrial property rights in Ukraine

Indicators	2012	2013	2014	2015	2016	Rate of growth from 2012 till 2016, %
Totally registered	30366	30766	29677	26098	31016	+2,14
Findings	3405	3635	3319	3014	2813	-17,39
Useful models	9951	10137	9196	8153	9044	-9,11
Industrial samples	1541	2010	2464	2521	2469	+60,22
Trademarks of products and services	15459	14981	14698	12388	13618	-11,91
Topographies	2	-	-	-	-	-
Qualified indications of the goods origin	3	1	-	22	3069	-
Rights for the use	5	2	-	-	3	-

Source: Based on [4]

Analysis of the data in the table shows that the number of registered security documents for inventions, utility models and marks for goods and services has reduced. Despite the increase of registered security documents for industrial designs - 60.22%, the total number of annual registered security documents for industrial property objects remains virtually unchanged - an increase is only 2.14%.

Such tendencies indicate, in our opinion, the presence of problems in the sphere of the formation of techno-technological and venture capital, as well as the lack of activity in the sphere of innovations of enterprises in Ukraine.

Table 4 shows the indicators of innovative enterprises in Ukraine: their share in the total number of enterprises and the cost of innovation activities.

Table 4

Innovative activity of Ukrainian enterprises

Indicators	2012	2013	2014	2015	2016	Deviation from 2012, (+;-)
Share of innovatively active enterprises, %	17,4	16,8	16,1	17,4	18,9	+1,5
Total amount of expenses for innovation activity, UAH million	11480,6	9562,6	7695,9	13813,7	23229,5	+11748,9

Source: Based on [3]

Analysis of Table 4 shows that in 2016, the share of innovative enterprises increased by 1.5% compared to the indicators of 2012, however, the value of the indicator is less than 20% throughout the study period. The total amount of expenses for innovation activity is also increased by 11 748.9 million UAH, which is a positive trend. At the same time, we believe that the limited financial support is one of the main reasons of insufficient innovation activity of enterprises in Ukraine.

The researchers point out that the negative tendency towards a reduction in the share of equity capital of enterprises, an increase in the share of short-term financial sources and a reduction in the share of long-term financial sources are the main reasons for the inhibition of innovation development of domestic enterprises [5, p. 100-101].

Table 5 shows the structure of sources of funding for innovative activities of domestic enterprises in the dynamics of recent years. Analysis of Table 5 shows that during the investigated period (2012-2016), the share of financing from the company's own funds significantly increased: from 63.9% in 2012 to 94.86% in 2016. Consequently, the main source of financing innovative activity of domestic enterprises is the own funds of industrial enterprises.

Table 5

Structure of sources of finding of innovative activity of industrial enterprises in Ukraine, %

Indicators	2012	2013	2014	2015	2016
Total finance of innovative expenses:	100,0	100,0	100,0	100,0	100,0
Including: - at the expense of enterprises' own funds	63,90	72,92	84,98	97,19	94,86

- at the expense of the government budget	1,95	0,26	4,47	0,40	0,77
-at the expense of foreign investors	8,67	13,11	1,80	0,42	0,1
-other sources	25,48	13,71	8,75	1,99	4,27

Source: Based on [3]

The use of other sources of financing for innovation activity is significantly limited due to the imperfect credit and tax system in Ukraine and the lack of investment attractiveness of domestic enterprises as a result of the growing crisis in the economy and military actions in the eastern part of the country.

Also, the effects of the global financial and economic crisis and the low level of regulatory policy, which leads to an increase in the number of unprofitable enterprises, and the threat of a loss of solvency and bankruptcy of a large part of enterprises in Ukraine, are essential to the activity of domestic enterprises [6, p. 130].

Conclusions. Formation of intellectual capital is an important factor in activating innovation activity of enterprises. Intellectual capital of the enterprise is a complex category which includes the following components: personified, techno-technological, infrastructural, client and vintage. However, there has been a series of problems in this area in recent years, which requires solutions both at the enterprise level and at the state level. On the basis of our research, the following negative trends as for the formation of personalized intellectual capital of enterprises in Ukraine were identified: a decrease in the number of specialists conducting research and implementing innovative developments, at the same time there is also a reduction in the number of specialists with a scientific degree.

There were also found some negative trends in the area of the formation of technical and technological capital and venture capital such as: a decrease in the number of registered security documents for inventions, utility models and

marks for goods and services in recent years. The development of infrastructure and client capital is at an early stage and requires both significant costs and long time to implement modern information systems, to create an internal corporate environment and relations with customers. The problem of the formation of individual components of intellectual capital directly depends on the financial capabilities of the company, which in today's crisis conditions is significantly limited. For a long time, the share of financing of innovation activity of domestic enterprises at the expense of own funds had been increasing and in 2016 it grew up to 94.86%. Therefore, state support of these processes is necessary by forming the appropriate legislative, tax, credit, infrastructure provision of the processes of formation of intellectual capital and innovative development of enterprises.

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