

Semenova V. G.
Doctor of Economic Sciences, Professor
of the Department of Enterprise Economics and Entrepreneurship Organization,
Odessa National Economic University, Ukraine

FINANCIAL SUPPORT FOR FORMATION OF INTELLECTUAL CAPITAL OF ENTERPRISES

Abstract. Among all resources of the enterprise, intellectual resources are able to ensure a creative, innovative approach to the solution of actual issues of enterprise's operation. The formation and active use of intellectual capital of the enterprise becomes a guarantee of increasing its competitiveness and efficiency of activities both in the context of solving current problems and in the strategic perspective. The purpose of the research is to analyze the financial support of the development of intellectual capital at domestic enterprises.

Analysis of data about the training of skilled workers in Ukraine indicates a tendency towards a decrease in the total number of educational institutions in recent years and the number of trained qualified staff. This affects both the quantitative composition of employees at domestic enterprises and their qualitative characteristics, and it prevents the processes of formation of intellectual capital.

The main obstacles to the formation of intellectual capital are the lack of proper financing of these processes both at the state level and at the level of separate enterprises. There are developed the recommendations on directions of financial support of the processes of formation of intellectual capital: participation of employers in the formation of professionally oriented educational programs and financial support of specialized educational institutions by acquisition the necessary equipment; the purposeful allocation of funds for the payment of training of individual workers in educational institutions; the active participation of enterprises in the practical training of skilled workers and the formation of programs for production practice; providing employees with the opportunity to get an education using "dual education system"; the payment for advanced training courses; the introduction of special rewards for invention and rationalization.

Keywords: intellectual capital, innovative activity, financing sources, financial support, industrial enterprises.

GEL Classification: G32, O15

Formulas: 0; fig.: 1; tabl.: 2; bibl.: 14

Семенова В. Г.
д.е.н., доцент, професор кафедри економіки підприємства
та організації підприємницької діяльності,
Одеський національний економічний університет, Україна

ФІНАНСОВЕ ЗАБЕЗПЕЧЕННЯ ФОРМУВАННЯ ІНТЕЛЕКТУАЛЬНОГО КАПІТАЛУ ПІДПРИЄМСТВ

Анотація. В роботі проаналізовано особливості формування інтелектуального капіталу вітчизняних підприємств. Досліджено сучасний стан підготовки кваліфікованих працівників в Україні. Виявлено тенденції до скорочення навчальних закладів освіти та кількості підготовлених фахівців, що негативно впливає на процеси формування інтелектуального капіталу підприємств. Досліджена структура витрат вітчизняних промислових підприємств на інноваційну діяльність за окремими напрямками в динаміці останніх років. Розроблено рекомендації щодо основних напрямків фінансового забезпечення процесів формування інтелектуального капіталу підприємств.

Ключові слова: інтелектуальний капітал, інноваційна діяльність, джерела фінансування, фінансове забезпечення, промислові підприємства.

Формул: 0; рис. 1; табл.: 2; бібл.: 14

ФИНАНСОВОЕ ОБЕСПЕЧЕНИЕ ФОРМИРОВАНИЯ ИНТЕЛЛЕКТУАЛЬНОГО КАПИТАЛА ПРЕДПРИЯТИЙ

В работе проанализированы особенности формирования интеллектуального капитала отечественных предприятий. Исследовано современное состояние подготовки квалифицированных работников в Украине. Выявлены тенденции к сокращению учебных заведений и количества подготовленных специалистов, что негативно влияет на процессы формирования интеллектуального капитала предприятий. Исследована структура расходов отечественных промышленных предприятий на инновационную деятельность по отдельным направлениям в динамике последних лет. Разработаны рекомендации по основным направлениям финансового обеспечения процессов формирования интеллектуального капитала предприятий.

Ключевые слова: интеллектуальный капитал, инновационная деятельность, источники финансирования, финансовое обеспечение, промышленные предприятия.

Формул: 0; рис.: 1; табл.: 2; библи.: 14

Introduction. The development of the world economy in modern conditions is based on the dissemination and widespread use of scientific and technological achievements and activation of the intellectual potential of the enterprise. Among all resources of enterprise, there are the intellectual resources that are able to provide a creative, innovative approach to the solution of actual issues about the enterprise's operation. The formation and active use of intellectual capital of enterprise becomes a guarantee of increasing its competitiveness and efficiency of activities both in the context of solving current problems and in the strategic perspective.

However, the multi-aspect of intellectual capital, the need to use the various techniques and methods for the formation of its separate components complicates these processes at domestic enterprises. The increasing the value of human capital as the central component of intellectual capital requires a detailed research of the factors of its formation.

Analysis of recent researches and problem statement. The research of theoretical aspects about the essence of intellectual capital is made in the works of such foreign scientists: A. Stewart Thomas, A. Brooking, L. Edwinston, J. Ruus, P. Sullivan, and others [1–5]. A significant contribution to the consideration of methodological and practical aspects in the processes of formation of intellectual capital is made by such domestic scientists as O. V. Kendiukhov, K. V. Kovtunenکو, O. Ie. Kuzmin, I. Iu. Kuchumova and others [6–9].

Despite a significant number of publications, it is required an additional comprehensive study of financial support of the formation of intellectual capital in the realities of the domestic economy. This determines the relevance of this research and it has determined the research direction in scientific and practical aspects.

The purpose of the research is to analyze the financial support for the development of intellectual capital at domestic enterprises. According to this purpose there were identified the following tasks:

- to analyze the peculiarities of the formation of intellectual capital of enterprises in Ukraine;
- to investigate the cost structure of domestic industrial enterprises for innovation activity in certain areas in the dynamics of recent years;
- to identify the main directions of financial support for the formation of intellectual capital at domestic enterprises.

Research methods. Theoretical and methodological basis of the research consists of scientific articles of domestic and foreign scientists on the issues of formation of intellectual capital of enterprise and financial support of these processes.

For solving certain tasks there were used the following methods:

- scientific and special methods of knowledge of economic reality;

- a dialectical method of the research of economic phenomena and processes in their interconnection and development;
- methods of structural and logical analysis (during the construction the logic and the structure of work);
- the method of detailing and synthesis (for studying the subject and the interconnection of its constituent parts).

Research results. In the economic study the researchers construe the concept of “intellectual capital” differently, but many researchers point out that the key factor for the formation of intellectual capital is the human factor. For example, D. Duffy believes that: “Intellectual capital is the cumulative knowledge managed by an organization in the person of its employees, as well as in the form of methodologies, patents, architectures and relations” [10].

We agree with the scientists that “human resources (human factor) – the most active and dynamic component of the intellectual capabilities of production, it is the basis of all components of intellectual capital. Human capital is an intellectual (productive) force that creates and implements innovations of productive and organizational character. In modern conditions, the role of a highly educated person, who is able not only to perceive the previously accumulated scientific knowledge, but also summarizing, analyzing, creating new knowledge in the form of advanced technologies, services, products, improves” [11, p. 71]. Therefore, first of all, we analyze the current state of training of skilled workers in Ukraine.

Table 1 provides data on the training of specialists in educational institutions in Ukraine in the dynamics of recent years (data for 2014–2016 are given without taking into account the temporarily occupied territories of the Autonomous Republic of Crimea, the city of Sevastopol and part of the anti-terrorist operation zone).

Table 1

Training of specialists in educational establishments of Ukraine, 2013–2016

Indicators	2013	2014	2015	2016	Growth rate 2016 to 2013, in %
Training of specialists in vocational schools					
Number of vocational schools	968	814	798	787	–18,70
The maximum number of students for study, thousands	391,2	315,6	304,1	285,8	–26,94
Number of graduated qualified workers, thousands	227,3	182,0	165,0	152,8	–32,78
Training of specialists in higher education institutions of the I–II level of accreditation (colleges, technical schools)					
Number of higher educational institutions	478	387	371	370	–22,59
The maximum number of students for study, thousands	329,0	251,3	230,1	217,3	–33,95
Graduated specialists thousands	91,2	79,1	73,4	68,0	–25,44
Training of specialists in higher educational institutions of III–IV accreditation level (universities, academies, institutes)					
Number of higher educational institutions	325	277	288	287	–11,69
The maximum number of students for study, thousands	1723,7	1438,0	1375,2	1369,4	–20,55
Graduated specialists, thousands	485,1	405,4	374,0	318,7	–34,30

The Source: is made due [12]

The analysis of Table 1 indicates a tendency of decreasing in the total number of vocational education institutions during 2013–2016 (of 18,7%) and at the same time a significant decrease in the number of trained qualified workers (of 32,78%). There are similar tendencies in the training of specialists in higher education institutions of the I–II accreditation levels: a decrease of numbers of educational establishments (of 22,59%) and numbers of trained specialists (of 25,44%).

The same trends are observed during 2013–2016 in the education sector at universities, academies and institutes. There was a negative tendency towards the reduction of educational establishments (of 11,69%) and trained specialists (of 34,3%).

The mentioned tendencies influence not only quantitative composition of qualification workers in the branches of economy, but also on qualitative characteristics of workers. Such conclusions are confirmed, in particular, by the existing tendencies in reducing innovation activity of domestic enterprises, decreasing the number of inventions and innovations in the same period.

Figure 1 clearly illustrates the tendency to altreations the number of employees, who were involved in the implementation of research and development in Ukraine during 2013–2016.

It is obvious that in Ukraine from year to year there are significantly reduced the personnel potential, the number of young skilled personnel who are able to initiate and implement innovative transformations in enterprises. Eventually, this will be a significant obstacle to increasing the intellectual potential of enterprises and the formation of their intellectual capital.

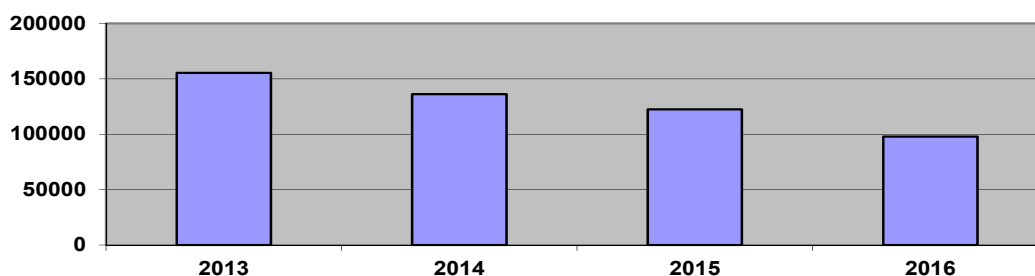


Fig. 1. Number of employees involved in the implementation of research and development in Ukraine during 2013–2016, (persons).
The Source: is made due [12]

The problems of formation of intellectual capital are caused by many factors. However, in our opinion, the main obstacles are the lack of proper financing of these processes, both at the state level and at the level of separate enterprises [12, p. 70].

Table 2 shows the cost structure of domestic industrial enterprises for innovation activity in certain areas of recent years.

Table 2
Cost structure of industrial enterprises in the directions of innovation activity in Ukraine during 2013–2016, (%)

Indicators	2013	2014	2015	2016
Total cost	100,00	100,00	100,00	100,00
Including the following directions:				
– research and development	17,13	22,80	14,76	10,58
– acquisition of other external knowledge	0,91	0,61	0,61	0,28
– acquisition of machines, equipment and software	58,00	66,47	80,65	85,36
– other expenses	23,96	10,12	3,98	3,78

The Source: is made due [12]

Analysis of Table 2 shows that the largest share is the cost of acquisition of machines, equipment and software, and the share of these cost increases in the dynamics of the researched years: from 58,0% in 2013 to 85,36% in 2016. Instead, the cost share for research and development decreased during this period: from 17,13% in 2013 to 10,58% in 2016.

It is obviously that at the industrial enterprises of Ukraine the costs are not directed to the development of intellectual achievements of enterprise. It should be also noted that our research shows that the main source of financing for innovative activity of industrial enterprises in Ukraine in recent years are own funds of enterprises [13]. We believe that the financial support of processes for the formation of intellectual capital of enterprises is nowadays under significant risk and it requires qualitatively new approaches both at the state level and at the enterprise level. At the same time, it becomes important the issues of the effective strategic management of financial resources of enterprise and the use of potential financial opportunities for ensuring the stability of enterprise [14, p. 104].

In our opinion, the main directions of financial support for the formation of intellectual capital of enterprise are:

- providing direct participation of employers in the formation of professionally and oriented training programs and financial support for specialized educational institutions through the acquisition of necessary equipment;
- target allocation of funds for payment of training of individual workers in educational institutions;
- an active participation of enterprises in the practical training of skilled workers (provision of job and practice managers) and the formation of programs of industrial practice;
- providing employees with the opportunity to acquire education on the principles of “dual education system”;
- payment for training courses for employees, mastering of new professions;
- introduction of special rewards for invention and innovation.

Conclusions. Data analysis on the training of skilled workers in Ukraine indicates a tendency of decreasing in the total number of educational institutions during 2013–2016 and the number of trained qualified staff. This affects both the quantitative composition of employees at domestic enterprises and their qualitative characteristics and it prevents the processes of formation of intellectual capital. It is determined that the financial provision of processes of formation of intellectual capital of enterprises is significantly limited and it requires qualitatively new approaches both at the state level and at the enterprise level. There are developed the recommendations on the directions of financial support of processes of formation of intellectual capital of enterprises.

The scientific novelty of obtained results consists in substantiating the organizational and practical provisions regarding the financial support the processes of formation of intellectual capital of enterprises. It provides, in particular, the active participation of employers in the training of qualified personnel in educational institutions and the stimulating of inventions and rationalization in enterprises.

The scientific results and author's developments have not only theoretical but also practical significance for solving specific practical problems at industrial enterprises for financial provision of the processes of formation of intellectual capital. The prospects for further research are grounded in the areas of financial support of certain components of intellectual capital of enterprises.

Література

1. Стюарт, Т. А. Интеллектуальный капитал. Новый источник богатства организации [Текст] / Т. А. Стюарт ; пер. с англ. В. Ноздриной. – Москва : Поколение, 2007. – 368 с.
2. Brooking, A. Intellectual capital: Core Asset for the Third Millennium Enterprise [Text] / A. Brooking. – Cengage Learning, 1996. – 224 p.
3. Edvinsson, L. Intellectual Capital: realizing your company's true value by finding its hidden brainpower [Text] / L. Edvinsson, M. S. Malone. – Harper Business, 1997. – 240 p.
4. Intellectual capital: navigating in the new business landscape [Text] / J. Roos et al. – NYU Press, 1998. – 208 p.
5. Sullivan, P. H. Value-driven Intellectual Capital; How to convert Intangible Corporate Assets into Market Value [Text] / P. H. Sullivan. – Wiley, 2000. – 304 p.

6. Кендюхов, О. В. Ефективне управління інтелектуальним капіталом [Текст] : монографія / О. В. Кендюхов. – Донецьк : ДонУЕП, 2008. – 363 с.
7. Ковтуненко, К. В. Особливості формування інтелектуального капіталу підприємства [Електронний ресурс] / К. В. Ковтуненко, Ю. В. Гутарева, Я. В. Шаповал // Економіка: реалії часу. – 2012. – № 3–4. – Режим доступу: <http://economics.opu.ua/journal>.
8. Кузьмін, О. Є. Управління інтелектуальним капіталом машинобудівних підприємств: теоретичні та прикладні положення [Текст] : монографія / О. Є. Кузьмін, Л. Г. Хідуха, О. А. Липич. – Луцьк : Вежа–Друк, 2014. – 200 с.
9. Кучумова, І. Ю. Інтелектуальний капітал в системі управління підприємством [Текст] / І. Ю. Кучумова // Бізнес Інформ. – 2013. – № 12. – С. 357–364.
10. Даффи, Д. Человеческий капитал [Электронный ресурс] – Режим доступа: http://www.icci.ru/study/13/25men_cap.doc.
11. Попело, О. В. Інтелектуальний капітал: теоретичний аспект і сучасні тенденції розвитку в Україні [Текст] / О. В. Попело // Економіка і регіон. – 2015. – № 2 (51). – С. 66–78.
12. Державна служба статистики України [Електронний ресурс]. – Режим доступу: <http://www.ukrstat.gov.ua/>
13. Семенова, В. Г. Інноваційний розвиток підприємств в Україні: фінансовий аспект [Електронний ресурс] / В. Г. Семенова // Проблеми і перспективи розвитку підприємництва. – 2017. – № 1 (6). – С. 165–170. – Режим доступу: <http://fmab.khadi.kharkov.ua/de/kafedri/ekonomiki-pidprijemstva/zbirnik-naukovikh-prac.html>.
14. Азаренкова, Г. М. Вдосконалення фінансової стратегії для забезпечення стабільності підприємства [Електронний ресурс] / Г. М. Азаренкова, О. Г. Головка, В. О. Пономаренко // Фінансово-кредитна діяльність: проблеми теорії та практики. – 2015. – Вип. 1. – С. 103–109. – Режим доступу: http://nbuv.gov.ua/UJRN/Fkd_2015_1_15.

Стаття надійшла до редакції 10.09.2017

© Семенова В. Г.

References

1. Stuart, T. A. (2007). *Intellektualnyi kapital. Novyi istochnik bogaztva organizatsii*. Moskva. Pokolenie.
2. Brooking, A. (1996). *Intellectual capital: Core Asset for the Third Millennium Enterprise*. Cengage Learning.
3. Edvinsson, L., & Malone, M. S. (1997). *Intellectual Capital: realizing your company's true value by finding its hidden brainpower*. Harper Business.
4. Roos, J. (1998). *Intellectual capital: navigating in the new business landscape*. NYU Press.
5. Sullivan, P. H. (2000). *Value-driven Intellectual Capital; How to convert Intangible Corporate Assets into Market Value*. Wiley.
6. Kendiukhov, O. V. (2008). *Efektivne upravlinnia intelektualnym kapitalom*. Donetsk: DonUEP.
7. Kovtunencko, K. V., Hutareva, U. V., & Shapoval, YA. V. (2012). Osoblyvosty formuvannia intelektualnoho kapitalu pidpriemstva. *Ekonomika: Realii chasu*, 3–4. Available at: <http://economics.opu.ua/journal>
8. Kuzmin, O. E., Khidukha, L. G., & Lypych, O. A. (2014). *Upravlinnia intelektualnym kapitalom machynobudivnykh pidpriemstv: teoretychni ta prykladni polozhennia*. Lutsk: Vezha–Druk.
9. Kuchumova, I. Yu. (2013). Intellektualnyi kapital v systemi upravlinnia pydpyriemstvom. *Biznes Inform*. 12. 357–364.
10. Daffi, D. *Chelovecheskii kapital*. Available at: http://www.icci.ru/study/13/25men_cap.doc
11. Popelo, O. V. (2015). Intellektualnyi kapital: teoretychnyi aspekt i suchasni tendetsii rozvytku v Ukraini. *Ekonomika i rehion*, 2(51). 66–78.
12. *Derzhavna sluzhba statystyky Ukrainy*. Available at: <http://ukrstat.gov.ua/>
13. Semenova, V. H. (2017). Innovatsiinyi rozvytok pidpyriemstv v Ukraini: finansovyi aspekt. *Problemy i perspektivy rosvytky pidpyriemnyztva*, 1(6). 165–170.
14. Azarenkova, H. M., Holovko, O. H., & Ponomarenko, V. O. (2015). Vdoskonalennia finansovoi stratehii dlia zabezpechennia stabilnosti pidpyriemstva. *Finansovo-kredytna diialnist: problemy teorii ta praktyky*, 1. 103–109.

Received 10.09.2017

© Semenova V. G.