DOI https://doi.org/10.51647/kelm.2020.8.2.27

PROBLEMY OCHRONY PRAW AUTORSKICH W ZAKRESIE OUTSOURCINGU

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Adnotacja. Szybki rozwój branży IT wymaga szczególnej uwagi podczas właściwej ochrony praw własności intelektualnej do tych towarów. Kwestia globalnej ochrony programów komputerowych, oprogramowania i podobnych produktów pozostaje otwarta. Ochrona prawna programów komputerowych, oprogramowania i praktyki prawne krajów zagranicznych są kwestią sporną. Wraz z gwałtownym rozwojem sektora IT na świecie kwestie ochrony praw autorskich, patentowania i nieujawniania poufnych informacji stały się istotnymi kwestiami związanymi z działalnością zawodową, w tym outsourcingiem IT. Artykuł kompleksowo analizuje aktualny stan praw własności intelektualnej i praw autorskich w outsourcingu IT (na przykładzie programów komputerowych i oprogramowania). Na przykładzie Ukrainy analizowane są najczęstsze problemy w zakresie ochrony praw autorskich w sferze IT. W artykule przedstawiono przykłady sposobów doskonalenia ram regulacyjnych dotyczących ochrony praw autorskich specjalistów zajmujących się outsourcingiem IT. Podkreśla się, że istniejące mechanizmy i metody regulacji prawnych wolniej reagują na zmiany w outsourcingu IT niż najszybsze trendy na tym rynku na świecie.

Słowa kluczowe: outsourcing IT, ochrona praw autorskich, rynek IT, usługi informatyczne, własność intelektualna.

PROBLEMS OF COPYRIGHT PROTECTION IN THE SPHERE OF IT OUTSOURCING

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Abstract. The quick development of IT sphere requires special attention to be paid to the appropriate protection of intellectual property rights to these products. The issue of global protection of computer programs, software and similar products remains open. Legal protection of computer programs, software and legal practice of foreign countries is a controversial issue. With the rapid development of the IT sector in the world, the issues of copyright protection, patenting and non-disclosure of confidential information have become vital issues of professional activity, including IT outsourcing. The article comprehensively analyses the current state of intellectual property right and copyright in IT outsourcing (as exemplified by computer programs and software). The most common problems in the field of copyright protection in IT sphere are analysed using the case of Ukraine. In the article there are examples of the ways how to improve the regulatory framework for copyright protection of specialists engaged in IT outsourcing. It is emphasized that the existing mechanisms and methods of legal regulations are slower to respond to changes in the field of IT outsourcing than the fastest trends in this market in the world.

Key words: IT outsourcing, copyright protection, IT market, IT services, intellectual property.

ПРОБЛЕМИ ЗАХИСТУ АВТОРСЬКИХ ПРАВ У СФЕРІ АУТСОРСИНГУ

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Анотація. Швидкий розвиток IT-сфери вимагає особливої уваги до належного захисту прав інтелектуальної власності на ці товари. Питання глобального захисту комп'ютерних програм, програмного забезпечення та подібних продуктів залишається відкритим. Правовий захист комп'ютерних програм, програмного забезпечення та юридична практика зарубіжних країн є спірним питанням. З бурхливим розвитком IT-сектору у світі питання захисту авторських прав, патентування та нерозголошення конфіденційної інформації стали життєво важливими питаннями професійної діяльності, включаючи IT-аутсорсинг. Стаття всебічно аналізує сучасний стан прав інтелектуальної власності й авторських прав при IT-аутсорсингу (на прикладі комп'ютерних програм і програмного забезпечення). На прикладі України аналізуються найпоширеніші проблеми в галузі захисту авторських прав в IT-сфері. У статті наводяться приклади способів удосконалення нормативної бази щодо захисту авторських

прав фахівців, що займаються IT-аутсорсингом. Підкреслюється, що чинні механізми та методи правового регулювання повільніше реагують на зміни у сфері IT-аутсорсингу, ніж найшвидші тенденції на цьому ринку у світі.
Ключові слова: IT-аутсорсинг, захист авторських прав, IT-ринок, IT-послуги, інтелектуальна власність.

Introduction. One of the vital issue in IT sphere is the transfer of intellectual property rights from the software developer to the customer. Intellectual property is a central element in the field of IT. With the development of the IT sector in the world, on the one hand, a huge demand for services in the field of IT outsourcing, while on the other hand, there is an increasing number of unresolved issues related to copyright protection in this area.

As an example, could be case with British Airways. When British Airways had felt huge economic losses in May 2017 due to mistakes made by some one from IT Department. It caused the heads of organizations to reconsider their attitude to digital technologies in their companies. More than 1.500 flights were cancelled for two days. The reason for the failures was IT services and British Airways' efforts to save on the recommendations of outsourced Indian IT company Tata Consultancy Services.

Experienced IT outsourcing companies always predict the consequences of certain business decisions and critically conduct audits. Another topical issue today, given the rapid growth of the IT outsourcing market, is the problem of copyright protection.

The first computers and prototypes of computers appeared in the middle of the 20th century, and they were so few that the programs were customized. There was no point in copying them and there was no need to protect them by copyright. But over time, as information technology has become an integral part of everyday life, the issue of protecting the rights to computer programs and copyrighted content has arisen.

According to Berne Convention for the Protection of Literary and Artistic Works, a computer program is protected by copyright as a literary work. Unlike patent law, copyright in a work has no territorial restrictions and arises in all countries that have signed the Berne Convention automatically upon its creation without any formalities, and has the longest term of legal protection. Second, formally a computer program is a text written by programmers that is similar to a literary work.

There are several options of the computer program legal protection and the choice depends on the form of its use and the purposes of protection. For instance, when it comes to selling software, the generally accepted rules provide that the source code of a computer program is protected as a copyright object against illegal copying. But if the equipment that operates on the basis of original software is marketed, it will be more appropriate to obtain a patent for the invention. In the United States, it is possible to protect a computer program as an invention if it is part of an object in the material world. Provided that all the criteria for obtaining a patent are met, the principle, method, algorithm of the software can be applied for registration. The main advantage of patenting is that it is possible to protect not the expression of the program through a certain programming language, but its practical implementation and the main idea.

Ukraine is suffering a problem of protection of copyright for software products. Note that Ukraine took the lead in the ranking of countries that are most likely to infringe intellectual property rights in 2019. According to Microsoft, there are also almost 85% of products manufactured by it and used in Ukrainian government agencies in 2018.

The results of the studies of IT outsourcing development problems in Ukraine are covered in the works of domestic and foreign authors: B. Anikina, G. Bravara, D. Brauna, O. Borzynovoi, I. Byrdenko, O. Zoriy, T. Karpovoi, M. Koval, C. Mezaca, V. Chizhova, R. Yaremchuka. The issue of computer programs and software for the protection of intellectual property rights and copyright to improve the national system, the basic guidelines for Ukraine's integration strategy are the basic principles for the implementation of European integration intentions of Ukraine. The rapid development of the field requires special attention to the appropriate protection of intellectual property rights to these products. The issue of global protection of computer programs, software and similar products remains open (Tech Ecosystem Guide to Ukraine, 2019).

Modern researcher Yu. Chen is convinced that the ever-increasing complexity of the IT tasks performed by an outsourcing company should be associated with a greater exchange of intellectual property rights with suppliers. Outsourcing providers are more likely to receive know-how redeployment rights if they conclude agreements for super innovative software development projects (Chen, Bharadwaj, Goh, 2017). Another group of scholars N. Hafidi, A. Barkany, M. Morad (Hafidi, Barkany, Morad, 2017) believe that the most important thing in the provision of services is the correctness of drafting contractor's agreements, copyright issues are not relevant enough for them.

According to N. Ramasubbu and Ch. Kemerer, for modern IT outsourcing companies, violation of established standards during the development and subsequent maintenance of corporate systems causes information asymmetry between customers and suppliers. Instead, balancing control — periodically adjusting outsourcing project management configurations helps mitigate these information asymmetry issues (Ramasubbu and Kemerer, 2021). E. Mazzola emphasizes that the challenges associated with technical problems in the later stages of the innovation process are positively related to the growing importance of copyright protection. Conventional maintenance of IT systems is usually not associated with a significant role of copyright protection (Mazzola, Acur, Piazza & Perrone, 2018). Theorist J. Kotlarsky emphasizes the pace of technology changes, thus affecting society. This leads to new ways of managing relationships with suppliers and a deeper understanding of a range of factors. The researcher raises, but does not solve the problem of copyright in the IT field (Kotlarsky, Oshri, Dibbern, Mani, 2018). In their work, J. Hergueux and D. Jemielniak emphasize that in the public sector (including the judiciary and academia), specialists are even more tolerant of online copyright infringement than those in the private sector. Scholars discuss

the implications of the copyright reform debate for the current state (Hergueux and Jemielniak, 2019), but do not answer all questions. We can say that this topic is almost not covered in the scientific literature.

The objective of this work is to more comprehensively analyse the problem of copyright and IT outsourcing, involving survey methods for managers of IT companies, try to identify recommendations for improving regulatory protection of copyright in the field of IT on the example of Ukraine.

Of course, every author or rightful owner wants to protect his or her copyright from infringement to the maximum possible extent. However, this is not so easy to do in the Ukrainian reality, as the mechanisms for protecting and combating piracy in Ukraine are very imperfect. In addition to the sale and replication of counterfeit software, the distribution of software products over the Internet is widespread today, creating serious difficulties in resolving copyright infringements. The Supreme Court of Intellectual Property is currently starting its work in Ukraine. It has not yet provided enough case-law for scientific analysis. But, in any case, the existence of a specialized court in this area is a positive and serious step of Ukraine. This demonstrates the relevance of the topic of protection of intellectual property rights, including in the field of IT.

Methods and materials. The research procedure involved the use of a number of research techniques in a logical sequence.

The research process was started on the basis of a conceptual analysis of the issues covered in the article. This allowed identifying the functionality of IT services and analyse them in the domestic and global markets. This technique was enhanced by the use of general scientific methods at this stage. Namely: analysis and synthesis, method of generalization, logical and structured system analysis, methods of control, experimental evaluation and others were used. Structural and functional analysis in combination with the case-study method (which is a specific author's approach) was used in the study of Ukraine's experience of IT outsourcing and IT services as a separate example in the global context of studying this issue. The method of content analysis was used in the study of the legal framework.

The next stage of the research procedure was the use of qualitative sociological methods and quantitative methods of statistical information analysis, collection of empirical data to clearly characterize the problem situation in the field of copyright protection in IT outsourcing.

Qualitative data processing methods (statistics of IT specialists and the services they provide, different methods of classification, differentiation of problems in the field of copyright protection) were based on certain characteristics of the IT sector in the case of Ukraine.

The author widely used an empirical research method that allowed obtaining scientific facts in the course of observation of IT outsourcing; diagnosis of the domestic and world market.

Results. The Ukrainian IT market shows steady growth from year to year. According to an analysis by the international company PWC, the IT market in the national market has recently increased 2.5 times. In 2011–2020, they increased by 150%, and are expected to reach $ 5.7 billion in 2021 (Figure 1).

Ukraine is one of European leaders in the number of outsourcing companies. According to Ukrainian experts, 90% of our IT specialists work on the basis of outsourcing, and are not developers of their own IT products (Tech Ecosystem Guide to Ukraine, 2019).

They include 12 Ukrainian employers and six "legionnaires" – international companies that have their own development centers in Ukraine. The Ukrainian IT outsourcing industry continues to gain a foothold in the global market. Ukrainian suppliers have already managed to prove themselves as one of the most socially responsible and, above all, to ensure an unprecedented level of success. From their projects: 94% of customers are satisfied with the Ukrainian level of service, while this figure is only 84% in the best foreign companies. This is explained, in particular, by the fact that 72% of Ukrainian suppliers are actively engaged in innovation (Brief, 2020).

In Ukraine, the IT industry ranks second in the market and brought in about $ 5 milliard in 2020. This is just the beginning: the volume of the Ukrainian market will increase, 10% of the country's gross domestic product will reach $ 10 milliard. IT companies lack legal specialists to protect copyright and advise on legislation. Export of computer technologies is becoming one of the main sources of budget revenue of Ukraine. According to the macroeconomic studies of the IT Committee of EVA and Pricewaterhouse Coopers, which are subject to a positive scenario of the computer industry in the top countries, the volume of exported information technology could double and attract more than UAH 27 milliard to the state budget of (Зеров, 2016).

There have been many IT programs in Ukraine that can compete in the world markets, but the development of the computer technology market is limited by a number of factors, including the unstable economic situation. The one of the reasons is that it is more difficult to attract new customers. Growing markets in neighbouring countries are investing a lot of resources to promote their IT services in the global market. Belarus (12% increase) and Romania (19% increase) are key competing countries. Another reason is that the number of IT specialists of the Expert level is decreasing. According to average estimates in other countries for 2019-2020, there were about 5,000 specialists, many of whom have a high qualification level (Зеров, 2016).

Experts simultaneously work in several areas to solve these problems. The first one is incentives for the development of the IT industry. In the long run, it should be part of the industry's development strategy. At the same time, tax policy should be consistent and predictable for 5-10 years. The second problem is the reform of IT education: technology is growing faster than training at the universities, so the curricula should be timely adapted to new realities for training highly professional IT specialists (Проблеми ІТ-освіти в Україні, 2011).

The third thing which is important for the protection of intellectual property rights: IT specialists must develop the latest programs to successfully sell them abroad. Therefore, the protection and respect of intellectual property rights should be one of the important issues on the agenda of cooperation between IT companies and the state.

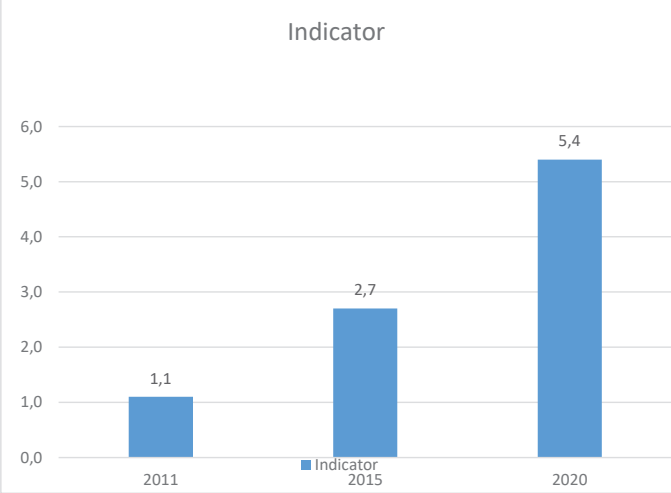

Figure 1. Growth of IT market for 2011-2020

Source: author's development based on the data of the State Statistics Service of Ukraine (2020) (Державна служба статистики, 2020).

The volume of services in the IT market increased during the period of 2011–2020. According to industry forecasts, Ukraine was supposed to have about 240.000 IT specialists by 2021. Such rapid growth is easily explained by the prestige and dynamism of the IT sector in Ukraine. There are also some benefits in terms of the working environment: access to advanced technology and a flexible work schedule in most offices.

Table 1

Dynamics of volumes and growth rates of the global IT outsourcing market, 2015–2021

Year	Outsourcing market volume, milliard $	% to the previous year
2015	369.3	-5.1%
2016	370.9	2.4%
2017	386.5	3.8%
2018	394.4	4.0%
2019	404.1	4.5%
2020	415.3	5.4%
2021	426.4	5.7%

Source: author's development based on the data of the State Statistics Service of Ukraine (2020) (Державна служба статистики, 2020).

The increase in the growth rate of IT outsourcing is due to the recovery of the business segment of the market. In 2019–2021, the global IT outsourcing market has shown high dynamics due to favourable economic conditions. During this period, the IT outsourcing market was considered one of the fastest growing and promising segment of the IT services market. Next, we reflect the structure of the global market for IT services by segments (figure 2).

In 2020, a large share of IT services was provided in the field of development and integration – 30% of the total market. Support and maintenance of hardware and software in 2020 gave 20% of the market for IT services. Business process management segments accounted for 26% and 15% of the market, respectively. In 2020, net outsourcing accounted for more than a quarter of the global IT services market.

In IT outsourcing, Ukraine is inferior only to India. This activity brings our country up to $ 2.5 milliard annually. Further development of IT services and export of innovations will be planned. This year, Ukraine scored another 7 points in the Global Innovation Index, and ranked 43rd among 125 countries. With regard to the domestic market, it is necessary to take into account political factors related to the elections, possible fluctuations in the hryvnia exchange rate, improving investment attractiveness by the end of the year under favourable conditions and changes in the legal field. According to Gartner, Ukraine ranks 1st in Eastern Europe in terms of price/quality ratio (The National Outsourcing Association, 2019).

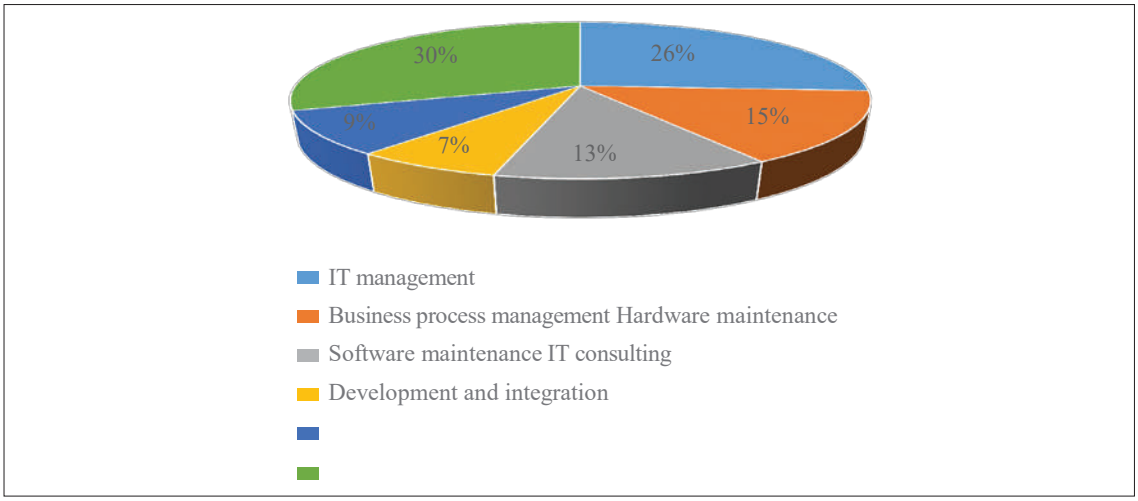

Figure 2. Structure of the global market of IT services by segments, 2020, %

Source: author's development based on the data of the State Statistics Service of Ukraine (2020) (Державна служба статистики, 2020).

The Indian IT market attracts companies around the world with low cost and a large number of software developers. Since 2019, the market value of Indian IT services has approached the United States with its 2.75 million local software development specialists (the US has about 3.5 million developers). At the end of last year, the Indian industry employed about 5 million specialists.

Ukrainian IT companies have revenues of $ 3.6 milliard, and India earns $ 150 milliard, ranking 1st in the Global Services Location Index with a huge number of young specialists (The Global Services Location Index, 2017).

In 2021, global analytical forecasts are very optimistic. The main driver of market development will be cloud" technology. According to forecasts, about 80% of companies will operate in the "clouds" for about five years. This creates significant opportunities to work remotely, involve foreign contractors, connecting them with the control and coordination of all processes. Artificial intelligence is becoming increasingly popular. At the same time, more specialists must develop individual solutions.

Currently, the development of cybersecurity in this area is not a legally rapid technological progress. It is necessary to involve additional specialists in the organization of effective data protection. In addition, the relationship between outsourcing groups and customers will change in the future. These are not impressive figures and promising statistics, but improved work ethics and the growing importance of professional skills that have been assessed over the past few years. Organizations have begun to realize the importance of outsourcing business, and this means that there is significant potential for development.

Currently, there are more than 140,000 programmers in Ukraine, and this number is increasing by about 20% due to the influx of new programmers who form a strong creative class. Ukrainian domestic intellectual potential and the introduction of innovations create a new perception. IT business in Ukraine is gradually turning into consulting in the field of services. IT creates additional jobs in the related industry (the programmer creates two or four additional jobs). The state budget revenues for 2018–2020 increased annually by 27% and reached UAH 4.1 milliard (Information technology industry in Ukraine, 2017). A significant share of taxes paid by IT companies has increased due to the significant amount of salaries of IT specialists (as of 2020, the official salary in the IT sector was 69% higher than the national average).

Among the main constraints to the development of the IT industry in Ukraine is the lack of consistent payment of taxes; low protection of intellectual property rights of IT specialists; ineffective improvement of the IT industry, as well as weak investor protection at the legislative level. Another feature is that the IT market industry is difficult to analyse due to the existence in Ukraine of mainly quasi-product companies, when the company's headquarters and market are located abroad, and the production itself – in Ukraine.

The analysis of the statistics in the field of IT revealed the main problems associated with the improvement of methodological approaches and the formation of the market of IT services in Ukraine:

a) limited set of statistics on the IT market (including difficulties in collecting statistics to analyse the situation of copyright infringement in the IT field), the tasks of statistics in the IT sector are not adapted to international standards;

b) methodological issues related to the improvement of statistical analysis of the use of IT technologies in various fields in accordance with international practice have not been developed;

c) there is a need for continuous monitoring of the IT space, which provides support to the improved implementation of the state program for the development of information and communication technology.

The object of copyright protection in the IT field are mainly computer programs (software), it can also be a part of a computer program (if it can be used independently), design materials obtained during the development of a computer program but not included in it, other types of objects included in the computer program (audio-video

materials, photos). Typically, copyright protection applies to all types of computer programs that can be expressed in any language, including source code and object code. It should be remembered that new ideas, program algorithms, inventions used to develop the program are not protected by copyright.

Copyright can be divided into two categories: personal non-property rights and property rights. Personal non-property rights include the author's right to a name, the right to publish, which cannot be transferred to others in any way. Personal non-property rights belong to the author. The author is an individual who created the computer program. Only the author can allow other people to use the work: publish the program; rework, adapt and make changes; join a program or its element to another program; distribute (through sale, lease or rental, subscription, etc.); import copies.

Property rights (the right to use, distribute, alienate) may be transferred (for example, under a license agreement, under a software development agreement). Property rights can be transferred by the author to another person(s) (both individuals and legal entities).

Under the license agreement, one party – the right holder (licensor) – grants the other party – the user (licensee) – the permission to use the object of copyright. The license may be exclusive or non-exclusive. Under the exclusive license agreement, the licensor has the right to use the object of copyright only in the manner and within the scope provided by the agreement. In this case, the right holder (licensor) has no right to use and allow other persons to use this copyright object in the part provided to the licensee.

Under a non-exclusive license agreement (simple license), the right holder (licensor) grants the licensee the right to use the object of copyright while retaining the right to use the object of copyright and the right to issue a license to other persons. The license agreement must specify the following mandatory conditions: the object of copyright in respect of which the use is permitted; remuneration transferred under the license agreement, or the condition of free agreement; license type; license validity period; the authorised territory for the use of the object of copyright.

A copyright agreement is a type of license agreement. Only in the copyright agreement the author of the object is the licensor. Under the assignment agreement for the exclusive right to the object of copyright, one party (the right holder) alienates the exclusive right to the object of copyright in full to the other party. The assignment agreement must contain a condition on the amount of remuneration or on the procedure for its determination, or a direct indication of being free.

In the IT sphere, the conclusion of an agreement for the development of computer programs is frequent (according to the results of the author's survey of managers of IT outsourcing organizations, this is 70% of all agreements). This agreement regulates copyright relations. In case of agreements for the development of computer programs, the developer is a legal entity. These are mixed contracts that may contain elements of: contractor's agreement (performing work to create a computer program, its installation and adaptation); service agreement (training the customer's staff on the use of the developed computer program, provision of consulting services); license agreement or assignment agreement (in terms of transfer of exclusive rights to use the created computer program to the customer). Therefore, such contracts must contain all the necessary conditions for each of the abovementioned types of agreements. In such agreements it is necessary to specify the scope of the contract, as well as the technical characteristics of the developed program.

Most often, Ukrainian entities are not companies in their classical sense, but individual entrepreneurs who work under a civil contract. One of the main points in such an agreement is the transfer of intellectual property rights. According to Art. 31 of the Law of Ukraine "On Copyright and Related Rights", property rights transferred under a copyright agreement must be defined in it. Property rights not specified in the copyright agreement as alienable are considered not transferred. This means that the phrase in the contract "all intellectual property rights belong to the customer" does not make sense. It is important to indicate the scope of rights and the law of which state they are transferred under, as Ukrainian developers often work for European or American customers. For example, personal non-property rights cannot be a priori alienated in Ukraine. In this case, the scope of rights that can be transferred under the law and which the customer wants to receive is compared, the full scope shall be listed in the agreement, but it is possible to provide a reservation that an indefinite license may be issued for the rights that cannot be transferred, or an obligation not to claim such rights to the customer's detriment.

It is important to accumulate all copyrights from each developer on the company, and only then transfer them to the customer. The copyright transfer clause can also be used as a mechanism to influence the customer. For example, it can be provided that all intellectual property rights will be transferred only after full payment for the service.

In the advocacy practice as regards copyright, there is an approach to recognizing the complex nature of a video game, which includes a computer program, a literary work, and an audiovisual work.

In the market of computer games, a very common phenomenon is copycat games – these are clone games that are very similar to each other and the average user is unlikely to be able to distinguish them at first glance. They usually create a "twin" of the world-famous game for the national market. For example, in 2013, Wargaming filed a copyright lawsuit against Chinese developers Changyou and Gamease, who created a clone of the world-famous game World of Tanks. The most interesting thing is that the plagiarists not only copied the game space, plot, dialogues, but also reproduced all the historical inaccuracies and fictional tanks in their game.

There is an exception for the concept of "scènes à faire", according to which there are mandatory elements for certain genres. For example, if the studio creates a computer game about the world of fantasy, it will be sure to have orcs, elves, gnomes, which will have certain characteristics that are repeated by other companies.

To counter infringers in the U.S., direct claims may be claimed or infringing content can be blocked using the take down notice procedure. This tool is provided by US law, namely the Digital Millennium Copyright Act

(DMCA). It increases the responsibility for copyright infringement in the digital age, and also allows to quickly remove inappropriate content without going to court. Under this procedure, the provider shall, upon the right holder's complaint, according to the DMCA, remove the infringing object by notifying the person who posted it in order to avoid liability, or in case of refusal shall be liable for infringement. If the website does not have a DMCA application form, a complaint about copyright infringement can be filed with the hosting providers that ensure the operation of this website on the Internet.

In general, with the help of intellectual property one can consolidate leadership in the market and gain user loyalty. Informing consumers that the product uses objects protected by copyright indicates a high image of the company and symbolizes a significant advantage over competitors.

The commission of these actions by persons who do not hold the rights to the program allows the right holders to resort to protection of their violated rights. To protect their violated rights, the right holder may: apply to a notary to draw up a protocol of review of written evidence to record the offense. This will be appropriate if there is a need to record copyright infringement on the Internet; send a claim to the offender; file a copyright infringement complaint with law enforcement agencies.

Depending on the nature of the copyright infringement, the right holder has the right to demand: cessation of actions that infringe the right or create a threat of its infringement; restoration of the situation that existed before the infringement (for example, removal of changes made in a computer program without the consent of the copyright holder); compensation for non-pecuniary damage (only an individual can claim it); compensation for damages or payment of compensation; seizure of material objects by means of which the exclusive right is violated, and material objects created as a result of such violation.

Discussion. Yaremchuk R. believes that the legal protection and protection of computer programs in the legal practice of foreign countries is a controversial issue. This is due to the fact that the existing mechanisms and methods of legal regulation are slower to respond to changes related to rapidly growing volumes of software development (Яремчук, 2017).

The issue of copyright and related rights is regulated by the Law of Ukraine "On Copyright and Related Rights" (Про авторське право і суміжні права, 1993). According to this Law, the personal property right is subject to protection – copyright and rights of contractors, producers of phonograms, broadcasting organizations, which are related rights (On Copyright and Related Rights, 1993). The law stipulates that software, creation of websites, databases is recognized as works in the field of science, literature and art that have a scientific-and-technical, technical or other nature. This means that the finished software product is protected by law as a literary work. But this does not apply to the technological process of data processing, the algorithm itself, which is often an important product of intellectual activity. This is a practice is applicable not only in Ukraine, but all over the world (Про авторське право і суміжні права, 1993).

V. Chizhov suggested that it is necessary to take into account the industrial process approach to software development, which requires clear and complete protection of these products. The level of software copyright protection must correspond to the complexity of creating such a product. The very idea, process or method of a product must be protected in a timely manner (due to the short life cycle of such a product) (Чижов, 2016).

In our opinion, all ideas can be protected not only as a form of expression, but also as inventions of products or utility models, a technical solution, that should solve any problem. According to the Law of Ukraine "On Copyright and Related Rights", copyrights are divided into personal non-property and property rights.

Personal non-property rights include, in particular, the right to demand the preservation of the integrity of the work and to oppose any distortion or other alteration of the work, or any other encroachment on the work that may damage the honor and reputation of the author. For example, a programmer created an original script that is used on websites to create the illusion of moving slides, and then saw the same animation on another website that promotes terrorism. This can damage the honor and reputation of the author.

According to Ukrainian law, only an individual can be the holder of personal non-property rights, and they cannot be alienated. In the United States, the situation is somewhat different. These (moral) rights have been recognized relatively recently, and special rules governing their legal protection have not yet been developed. Therefore, copyright in the United States includes only the property component, but in the alienation of property rights to the work the author may refuse to mention his name when using the work.

The property rights of the author include: an exclusive right to use the work; an exclusive right to authorize or prohibit the use of the work by other persons.

It should be noted that only the author can be the original subject to whom the copyright belongs, while a legal entity can be the holder of the rights. As for the validity period, personal non-property rights are indefinite, while property rights are limited in time. In Ukraine, personal property rights are valid throughout the life of the author and 70 years after his death, but in other countries this term may be different.

If your program is so innovative that it has no analogues at the time of publication, it makes sense to check whether it can be patented. Due to the fact that the patent provides a monopoly on the manufacture and sale of such programs from other talented specialists, it is difficult to obtain, it has a shorter protection period and it must be carefully prepared for state registration. A patent to an invention that contain a software and a software copyright are different concepts. You may be the holder of a copyright of the program and/or the patent holder, both simultaneously and separately. As a general rule, copyright protects a specific embodiment of a particular idea (for example, an algorithm written in code). If you need to protect a specific technical solution that underlies

the software, it is best to do so through a patent. The patent comes into force upon state registration and is limited by the state of registration. Copyright arises automatically from the moment the idea is implemented in a more or less fixed form, without the need for state registration.

Unlike patent law, copyright arises from the moment a work is created and does not require any formalities in the form of registration. Registration of a work exists in Ukraine and some other countries. The author's certificate confirms that the object was created on a certain date, and is also a good reason to apply to court in case of violation of rights.

For comparison, copyright registration also exists in the United States. It is carried out by a state body – the Copyright Office as part of the Library of Congress. They register both published and unpublished work, but, unlike the registration of literary works, the computer program goes through a certain procedure to verify uniqueness, namely: whether the source code submitted for copyright registration contains elements of other rights holders. It is believed that by depositing you have automatically notified everyone of your copyright, and in case of violation it will be easier for you to defend your position in court. It should be taken into account that by depositing the program in the Library of Congress, you make the source code publicly available, but it is also possible to submit the source code for registration by hiding some information that contains a trade secret.

According to the Law of Ukraine "On Copyright and Related Rights" (Article 21), there are several ways to use the work without the consent of the copyright holder, but with mandatory reference to the author's name and source. This can be changes to the code to ensure work on the technical means, making a copy for archival purposes or to replace the legally acquired original in case of unusability or loss. Such methods also include the study of software for scientific purposes.

Copyright protection is possible in any country – party to the Berne Agreement. Ukraine, like most countries in the world, is a member to this Agreement. However, granting patents for computer programs is not a current practice in Ukraine. The Civil Code of Ukraine provides for the protection of computer programs as literary works, and the Law of Ukraine "On Protection of Rights to Inventions and Utility Models" does not specify anything about the patentability of software. Therefore, it is the software copyright that is mainly protected.

It is often possible to protect software that is used only within the company and was developed independently to maintain privacy as a trade secret. Most outsourcing companies in Ukraine are non-residents of Ukraine. They offer their employees to sign a non-disclosure agreement (NDA), which is drawn up in accordance with the law of the country in which these companies are registered. In view of this, the NDAs may contain provisions that are not just atypical for Ukrainian law, but which are invalid at all, that is those that cannot be implemented in Ukraine at all.

In our opinion, for cases where there is no desire to transfer the development to the general public, the NDA will be an alternative way to protect copyright. The usual approach under the NDA practices is the "automatic" transfer of rights to the created software to the employer.

The developer can assign copyright to the following objects: program; individual elements of the program; images on screen displays; menu and user interface layouts; databases; command lines.

Programming languages and functional, as well as data file formats, are not subject to copyright protection (in the EU, this is confirmed by the decision in the case of SAS Institute Inc. v. World Programming Ltd. (C-406/10). As already mentioned, copyright arises automatically through the creation of the work itself. Any registration, printing of the code or transfer to the depository is only a derivative of the fact of authorship and is not usually a mandatory condition. In Ukraine, record on a tangible device is required for software registration with the Intellectual Property Department. However, copyright is not tied to the time the computer program is presented on paper.

In Ukraine, illegal storage of a copy of a computer program in computer memory is a violation of property copyright. But in Ukraine, judges rarely personally examine copies of computer programs. Appropriately qualified experts usually deal with it at the request of a party and/or upon a court decision. It is a common legislative practice in Ukraine to restrict the right to make multiple copies of software for personal use, while this is allowed for copies of books or paintings.

Copyright does not protect ideas of: the creation of a program that performs the same function as a previously released similar program, without other "suspicious" factors, should not be considered an infringement of intellectual property rights.

Having analysed the information obtained, we can make the following generalizations. In modern Ukraine, the problem of copyright protection in the IT field remains very urgent. In 2016, Ukraine still ranked 4th among the top 10 countries for using pirated websites. The Ukrainian government is trying to implement certain measures, but Ukrainians are still looking for alternative ways not to pay for content and software. A special cyberpolice unit has been set up in Ukraine to deal with these issues. Only when the problem of protection of intellectual property rights is solved in Ukraine it will be possible to expect investments and the desire to develop intellectually intensive spheres. Ukrainian IT specialists must be confident in their copyright when working on their new projects.

Conclusions. Computer programs are protected as literary works. However, this does not allow to fully protect technical solutions, algorithms and ideas, project designs, information about the program that is being developed. In this case, the trade secret security procedure will be the solution. To ensure the security in Ukraine, there is the only operating mechanism for including the said information into the list of information constituting a commercial secret. Further measures should be taken to ensure the confidentiality of this information (determination of the range of persons to whom access will be granted, concluding non-disclosure agreements with developers in relation to

trade secrets, development of the Regulations on trade secrets). As for the name of the computer program, it can be registered as a trademark. This will strengthen the legal protection of the software product. An example in this case may be a registered trademark of the Windows operating system.

The fact and moment of creation of the computer program can be registered. The registration of a computer program may be one of the proofs that the computer program existed at that time, and the author of the program was the person named in the registration certificate.

Further development of IT outsourcing in Ukraine is possible provided the support of the internal market, strengthening of the regulatory mechanism of public administration in the field of intellectual property protection, granting proper rights to investors, the development of an adequate tax system and transparent rules for IT business.

The analysis of copyright protection in Ukraine should focus more on the shortcomings of the mechanisms of this protection for computer programs. The practice of copyright protection for computer programs with elements of an individual patent must be put right. The Law of Ukraine "On Copyright and Related Rights" should be detailed. An important element of ensuring copyright in Ukraine in IT outsourcing will be the adoption of a special law "On Protection of Rights to Computer Programs". In such documents it is necessary to clearly define the concept of "computer program" and its attributes.

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