

IT law as an indispensable element of education

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Abstract. *The study presents the issues of selected aspects of IT law. The article indicates legal regulations and court decisions in the field of computer program protection. The author solve the problem of how to interpret various aspects of IT law, taking into account the current case law of the Supreme Court and common courts. Conclusions from the discussed regulations and judgments, based on the available statistics, will constitute a starting point for the evaluation and the possibility of computer programs protection.*

Keywords: *law, IT, computer programs, intellectual property, assumptions*

1. Introduction

Everything in space has its own legal regulations. Therefore, the law has become an essential element of the existence of phenomena, relations, as well as material and non-material objects and goods. IT law includes a number of legal regulations from many different areas of law. There is no single source of law from which to obtain information on IT law.

The aim of the study is therefore an attempt to present a solution to the problem: how should we interpret the individual and most important, according to the author, aspects of IT law. It will also be worth proposing a definition of IT law. In this area, it will also be necessary to discuss the protection of computer programs, given the previous jurisprudence of the Supreme Court and common courts. It can also be assumed in advance that the importance of IT law is increasing, and therefore education in this field is necessary.

Conclusions from the discussed regulations and judgments will be the starting point for the assessment, also taking into account the available statistics.

2. IT law

The dynamics of technological development as well as the constant need to obtain and process different information have made it necessary to adapt legal standards to this as well. These socio-economic changes are noticeable in every possible area. The current covid-19 pandemic worldwide has created an even greater demand for the use of new technologies via the Internet. Indeed, both education and many jobs have changed their existing conditions by moving to the Internet wherever possible. It should be noted that not only education and work have now changed their basic tools and the way they accomplish their tasks. Additionally, interpersonal and family contacts have changed radically. Interpersonal contacts take place through electronic media. All this has resulted in the need to define the principles of functioning of virtual tools for communication and information exchange, so that there is no abuse.

There are many different views in doctrine about what information law means. However, there is no legal definition of it. There is also no single legal act where the principles and rules of broadly understood IT law should be sought. You can find views that IT law is considered a set of legal principles and norms that:

- 1) protect people against the unlawful use of their sensitive data, concerning all possible aspects of their lives, without their consent in terms of both collecting and processing data, which may simultaneously violate their personal rights and privacy;
- 2) secure any data contained in different sets of documents and also secure all materials and programmes;
- 3) regulate all possible relations between IT system organizers and owners of electrical devices, as well as between institutions using IT systems and their employees who operate these systems, such as operators, programmers and others[1].

Therefore, the essential and most important aspects of IT law will undoubtedly include material and procedural issues related to:

- 1) copyright and related rights;
- 2) civil law;
- 3) administrative law;
- 4) criminal law;
- 5) electronic signature;

- 6) protection of databases;
- 7) the provision of electrical services;
- 8) protection of personal data.

IT law is therefore a specific interdisciplinary branch of law which contains specific legal norms from different legal departments as well as from several different scientific disciplines. In practice, there is also another term for IT law, as a legal computer scientist. There are fundamentally similar issues under these concepts, because they are legal norms that apply to computer science. As computer science is an ever-evolving field of science, the legal standards for this science should be flexible. The possibility of making changes to the regulation of information technology will allow the regulations to adapt to the development of new information technologies. In the doctrine, one can see the view that IT law focuses mainly on issues related to the organisation of the functioning of the IT apparatus[2].

In view of the amount of information in the field of information law, it may be proposed to create a legal definition of IT law, as a set of legal norms, directly or indirectly related to the operation and use of information technology. That definition would therefore include all the necessary aspects relating to both civil and criminal and administrative information technology. However, there could be a problem in which a legal act should therefore contain such a definition, since it is intended to address all possible problems. However, it seems that the best solution would be to create a new piece of legislation on this matter, which could also refer to individual provisions set out in other laws. An example of a similar solution is the National Cybersecurity System Act of 5 July 2018[3], which aims to ensure cybersecurity at national level, including the uninterrupted provision of key services and digital services, by achieving an adequate level of security for information systems for the provision of these services and by ensuring incident handling.

It should be noted that the provisions of IT law will apply not only to IT specialists or lawyers, but will apply to every potential user of all possible IT tools.

The scope of copyright and related rights regulates the most important issues related to computer programs and defines the concepts of work. However, the protection of computer programs will be mentioned later in the work. The scope of civil law indicates both the protection of the personal rights of individuals and legal persons. In addition, all possible issues related to the activities undertaken, including through information systems or issues of liability for damages are also standardised by civil law. Administrative law includes a wide range of possible IT solutions that are to facilitate the work of both employees of state authorities and access to information from the administration. It is commonly referred to as the functioning of electronic administration. Criminal law issues determine which

behavior of a particular user of an IT system will constitute prohibited acts. Currently, there are more and more so-called "Cybercrimes". This means all kinds of offenses are being committed on the Internet, data networks, information systems and data contained therein, any offenses committed by means of information technology. Only by way of example can we point to such cybercrimes such as computer data forgery, computer fraud, drug trafficking or sexual crimes via the Internet. Thanks to the development of the electronic signature, it is possible to use IT systems and services without the need to appear in person and sign a traditional signature. Due to the collection of data in IT systems, it was necessary to protect databases. Databases means specific sets of data or any other materials and elements collected according to a specific system or method, individually available in any way, including electronic means, requiring a significant investment in terms of quality or quantity in order to prepare, verify or present its content. The increasing demand for online sales, especially during the pandemic, turned out to be safer, thanks to the provision of electronic services. The provisions on the protection of personal data were enacted due to the need to ensure in the Polish legal order the effective application of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of individuals with regard to the processing of personal data and on the free flow of such data and the repeal of Directive 95/46/EC in the scope of the General Data Protection Regulation. The protection of personal data is therefore all the more important when it covers IT systems. The introduction of appropriate safeguards and thus the creation of provisions on the protection of personal data was necessary to comply with the standards of personal data protection adopted at the European Union level.

The previously described impact of information technologies on human life and on all possible areas of law resulted in the emergence and development of the information society. Due to the dynamic development of both information and communication technologies (ICT - Information and Communication Technologies), there has also been a significant increase in the importance of information. The information society, therefore, means a society that is based on the most important commodity in the economic, cultural and social sense, which is information. In the information society, the way information is processed and the society communicates with each other is based on information technology. At this point it is worth mentioning the statistical data on the society available on the website of the Central Statistical Office [<https://stat.gov.pl/obszary-tematyczne/nauka-i-technika-spoleczenstwo-informacyjne/>] information in Poland for 2020. 2020 was unique not only in Poland, but also around the world due to the covid-19 pandemic. Therefore, this data also show elements of information society life also based on the pandemic. According to the data, in 2020 the percentage of people

aged 16-74 who bought goods or services online in the last 12 months was 60.9%, i.e. by 7.0 percentage points. more than in the previous year. 25% of the society used the possibility of remote work. The highest percentage was recorded among people working in ICT-related occupations (67.8%), and the lowest - in blue-collar occupations (1.9%).

In Poland, in 2020, 90.4% of households had access to the Internet, which was 3.7 pp. more than in the previous year. Over the year, the share of households with access to the Internet via broadband mobile connection increased by 12.4 percentage points, and through broadband fixed-line connection - by 5.4 percentage points. Both the access to the Internet and the type of Internet connections possessed varied depending on the type of farm, the class of the place of residence and the degree of urbanization. Households with children had access to the Internet more often than without. Taking into account the class of place of residence, the percentage of households with the Internet was higher in cities than in rural areas, and due to the degree of urbanization - it was the highest in highly urbanized areas.

In 2020, the percentage of people searching for information on public administration websites increased by 2.3 percentage points, and the percentage of people sending completed forms - by 2.1 percentage points. This demonstrates the growing importance of electronic public administration. In 2020, the percentage of enterprises applying ICT security measures amounted to 95.2%, i.e. by 8.0 percentage points. more than in the previous year. For this purpose, current software updates and strong password authentication were used most often (83.1% and 78.0% respectively). Almost every fourth enterprise used cloud services. Compared to 2019, the demand for ICT specialists has increased. In 2020, 25.2% of enterprises employed specialists in the field of information and communication technologies. Most often, people with such qualifications provided their work for large companies (83.3% of enterprises employing 250 or more people), and the lowest demand for such employees was recorded among small companies (19.1% of enterprises employing 10-49 people) (Source of data from the Central Statistical Office in Poland).

3. Protection of computer programs

Computer programs are an important part of computer science, processing a lot of information using computers in all possible manifestations of human activity. Computer programs can be used by children, institutions and companies. For these reasons, it is necessary to clarify the protection of computer programs.

For the first time, protection of computer programs as an object of copyright was regulated in the United States in 1980 under the Copyright Act, Title 17 of

the U.S. Code. As stipulated in § 101 of this Act, a computer program is defined as a set of orders or instructions intended to be executed directly or indirectly on a computer in order to achieve a specific result ("A computer program" is a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result"). It is worth pointing out that this definition from 1980 is still valid in US copyright law. (Pub. L. No. 96-517,94 Stat. 3015,3028)[3]. In the European Union, copyright on computer programs was protected first under Directive 91/250 / EEC on the legal protection of computer programs, and then under Directive 2009/24 / EC.

As stipulated in the Polish Act on Copyright and Related Rights of 1994[3], a computer program is a work under these provisions. Therefore, it should be assumed that this is a type of manifestation of creative activity of an individual character, established in any form, regardless of value, purpose and manner of expression. Therefore, protection of computer programs is available from the moment that this work is established, even though it would be in an unfinished form.

It is worth pointing out that this Act on copyright in the field of computer programs provides for a separate chapter 7 in Art. 74-772. The information contained in these provisions essentially reflects the scope of protection provided for other works. At this point, it is worth mentioning the Judgment of the Supreme Administrative Court of September 20, 2012, case II FSK 245/11, LEX No. 1225389, where it was stated that "computer programs do not constitute one of the subcategories of literary works, but are generically different works in relation to those works".

Moreover, pursuant to Art. 74 sec. 2 of this Act, the protection granted to a computer program covers all possible forms of its expression. However, the ideas and principles underlying any element of a computer program, including links, are not protected. One should pay attention to the possible different interpretations in this respect. On the one hand, the protection of a computer program concerns all possible forms of expression, but on the other hand, ideas and principles will no longer benefit from protection. In practice, difficulties are identified in defining a clear boundary on where any form of computer program can still be used, and when this form will only constitute an idea or a principle. At this point, it is worth pointing to the thesis from the judgment of the Court of Justice of 2 May 2012 in case C-406/10, SAS INSTITUTE INC. v. WORLD PROGRAMMING LTD (ZOTSiS 2012/5 / I-259), where it was indicated that Article 1 par. 2 of Directive 91/250 on the legal protection of computer programs must be interpreted as meaning that neither the set of functions of a computer program nor the programming language and data file format used in the context of a computer program for the exercise of certain functions thereof constitute expressions of that program and they

are therefore not protected by copyright for computer programs within the meaning of that directive. It was also indicated in the judgment itself that the assumption that the function of a computer program could be protected as such would make it possible to monopolize the concept at the expense of technical progression and industrial development.

In accordance with paragraph 3 Art. 74 of the Copyright Act, the employer is entitled to economic rights to a computer program created by an employee as a result of performing his / her duties under the employment relationship, unless the contract provides otherwise. It is a regulation based on Art. 12 of this Act in the field of employee works and also applies to other works. It should be noted that the issue of recognizing a work, or more specifically a computer program, as an employee's work is a common problem in practice. Due to the fact that contracts concluded with employees do not define the issue "for the future" and are sometimes vague, employees may be convinced that the property rights to the computer program created by them should belong to them. In this regard, it is also worth referring to the jurisprudence of the courts. Pursuant to the thesis expressed in the judgment of the Court of Appeal in Katowice of March 17, 2016, in case no. Act. I ACa 1028/15, LEX no. 2025506 - "Ratio legis of the standard contained in art. 74 sec. 3 u.p.a.p. It is such that an employer who employs an employee who is obliged to perform work for him for remuneration, acquires the right to a computer program created by the employee. Otherwise, the employer would be left without an equivalent for the paid remuneration, and the result of the work would be awarded to the employee. The provision of art. 74 sec. 3 u.p.a.p. is applicable to a soldier of the compulsory service who, as part of his service, created a computer program for the needs of a military unit. In such a case, the property rights to this program are vested in the entity that employs it". This indicates the need to refer to whether the work performed by the employee was created as a result of obligations under the employment relationship.

In another judgment of the Court of Appeal in Poznań of 11 July 2013, in case no. Act. I ACa 600/13, the court stated that "it is up to the unanimous will of the employer and the employee, ie the parties to the employment relationship, who acquire the copyright to the program created by the employee as a result of the employee's performance: the employee or the employer. If the parties to the employment relationship have not agreed in the contract that the employee acquires economic copyrights to a computer program, these rights are vested in the employer. Thus, the employer is the owner of the copyrights to a computer program performed as part of employee obligations, unless the parties have agreed otherwise in the employment contract or civil law contract. " The Supreme Court also spoke in a similar scope in previous rulings, where in the judgment of 9 January 2001, in the case no. Act. I PKN 493/00 (OSNP 2002/17/407) stated that "the

owner of the copyrights to a computer program performed as part of employee obligations is the employer, unless the parties agreed otherwise in the employment contract or civil law contract".

Under Art. 74 sec. 4 of the Copyright Act, the scope of economic copyrights to a computer program, except for situations where there is no need to obtain an authorized permit, includes the right to:

- 1) permanent or temporary reproduction of the computer program in whole or in part by any means and in any form; to the extent that multiplication is necessary for the introduction, display, use, transmission and storage of a computer program, these activities require the consent of an authorized person;
- 2) translating, adapting, changing the layout or any other changes to the computer program, while maintaining the rights of the person who made these changes;
- 3) disseminating, including lending or renting, a computer program or a copy thereof.

It is also worth pointing to Art. 75 sec. 1 of the copyright law in question with regard to the use of the computer program as intended. As stipulated in this provision, activities of permanent or temporary reproduction of a program or translation or adaptation of this program do not require the consent of the entitled person, if they are necessary for the use of the computer program in accordance with its intended purpose, including the correction of errors by a person who legally acquired it, unless the contract states otherwise.

Moreover, as is clear from Art. 75 sec. 2 of this Act, the following activities do not require the authorization of the holder of the right:

- 1) making a backup, if it is necessary to use the computer program. Unless the contract provides otherwise, this copy may not be used simultaneously with the computer program;
- 2) observing, examining and testing the functioning of a computer program in order to learn its ideas and principles by a person who has the right to use a copy of a computer program, if, being authorized to do so, he or she does so while introducing, displaying, applying, transmitting or storing the computer program;
- 3) reproduction of the code or translation of its form, if it is necessary to obtain the information necessary to achieve interoperability of an independently created computer program with other computer programs, provided that the following conditions are met:

- a) these activities are performed by the licensee or another person authorized to use a copy of the computer program or by another person acting on their behalf,
- b) the information necessary to achieve cooperation was not previously easily accessible to the above-mentioned persons,
- c) these operations relate to the parts of the original computer program which are necessary to achieve interoperability.

Information on the reproduction of a code or translation of its form of a computer program, as provided for in Art. 75 sec. 3 of the Act may not be:

- 1) used for purposes other than achieving interoperability of an independently created computer program;
- 2) transferred to other persons, unless it is necessary to achieve interoperability of an independently created computer program;
- 3) used for the development, production or marketing of a computer program substantially similar in form of expression or for other activities infringing copyright.

Pursuant to Art. 76 of the Copyright Act, the provisions of contracts that are inconsistent with the regulations regarding the lack of a requirement for permits and the premises for information on duplicating the code or translating its form of a computer program are invalid. It is also worth pointing out that pursuant to Art. 77 of the Copyright and Related Rights Act in the field of computer programs, the specific provisions of this Act do not apply (Art.16 points 3-5, Art.20, Art.23, Art.23¹, Art.27, Art.28, Art. 33²-33⁵, art. 49 section 2, art. 56, art. 60 and art. 62). Under Art. 77¹ of the Act, the entitled person may demand that the user of a computer program destroy his technical means (including computer programs), the sole purpose of which is to facilitate the unauthorized removal or circumvention of the technical security measures of the program. Moreover, as stipulated in Art. 77² of this Act, the protection granted to databases meeting the characteristics of a work does not apply to computer programs used to prepare or operate databases accessible by electronic means. Protection of computer programs can be demanded on the basis of Art. 78 and art. 79 of the Copyright Act, where specific claims and demands were indicated. It is therefore worth noting that computer programs can therefore be protected under civil, criminal and disciplinary proceedings. It is enough to initiate specific proceedings and submit a notification, application or claim [4].

At the end of the discussion of this subject, it is worth referring to the rejection of patent protection for computer programs. This line of reasoning in the protection of computer programs resulted from the judicature of the Supreme Court of the United States, and then such a protection model was adopted in Poland[5]. In the case of *Gottschalk v. Benson* (409 U.S. 63), a US Supreme Court judgment of 1972 challenged the patentability of a binary-coded decimal conversion method. It has been recognized as an algorithm - a mathematical formula qualifying for the category of abstract ideas and therefore excluded from patenting. In Europe, a similar approach was reflected in national patent laws, once in the Act of 19 October 1972 on Invention and now in Industrial Property Law, as well as in the Convention on the Granting of European Patents, in which computer programs were excluded from the scope of the concept of invention, which could be patentable. In art. 52 sec. 2 of the Convention, they are listed among non-inventions, including computer programs "as such". It is similarly indicated in Art. 28 sec. 1 point 5 in connection with with art. 28 sec. 2 industrial property law. Although neither the European Patent Convention nor national laws abolished the above-mentioned regulations, the patent status of computer programs has evolved in the practice of patent offices, which has led to the concept of "computer-implemented inventions". This concept, as used by the European Patent Office, was attempted to be incorporated into the law of the European Union within the framework of the directive intended to harmonize national patent law systems in this matter[6]. However, the draft directive was rejected by the European Parliament on July 6, 2005. The idea of introducing patent protection for computer programs may, however, become a legal requirement, as it could increase and extend the protection of computer programs [7, 5].

4. Conclusion

Therefore, when answering the question contained in the introduction, it should be stated that IT law and all of its most important elements described earlier should be understood broadly. Due to technological progress and the use of more and more modern IT systems, the scope of IT law cannot be narrowed down in almost all possible areas of life. Therefore, IT law is a very important area of law, which is undisputedly interdisciplinary. Currently, specialized law firms have been established in this field, and even appropriate departments and units at universities in the field of IT law. No wonder that all other issues, including IT, should also be analyzed in terms of legal provisions[8]. It would also be worth considering introducing the previously proposed definition of IT law into the new legal act. It is therefore a legal requirement that could contribute to a better understanding of issues related to IT law.

The statistical data on the information society presented in the work, published by the Central Statistical Office, show the dynamic and continuous development of information technologies. Which, in turn, favors the demand for specialists in the field of IT as well as IT law. It should be noted that it is the science of law that must follow computer science in order to not stop its further development. Well-established legal conditions for the existence of new IT issues may enable the use of these resources in a safe manner and in accordance with accepted legal standards that must be clear and known to everyone. However, there is a certain risk that the new IT technologies introduced to the market will not have their equivalents in the legal regulations, due to significant differences. This state of affairs is called a "loophole" and is mainly used for criminal activities, such as legal highs, which after some time have been properly regulated and banned.

Computer programs in the Polish legal system are protected mainly under the Copyright and Related Rights Act. This protection is similar to that of other works. The separation, however, shows that computer programs are different as works. The existing jurisprudence of common courts, the Supreme Court in Poland and international judgments indicates several recurring problems related to the protection of computer programs. These problems include, inter alia, the issues of work.

The thesis that I assumed at the outset that the importance of IT law is increasing, and therefore education is necessary in this area, was fully confirmed by the analysis of statistical data, jurisprudence, legal regulations and the position of the doctrine.

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