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Digital human rights and their impact on intellectual property

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Abstract

Comprehensive research into the impact of digital human rights on intellectual property is highly relevant, as it holds significant importance for the development of a theoretical framework and the further advancement of the positive influence of digital human rights on the evolution of intellectual property. This article aimed to analyse the key areas in which digital human rights influence intellectual property. The research employed functional, historical-legal, synergistic, and formal-logical methods. The article examines the primary spheres in which digital human rights impact intellectual property. It also explores specific measures being taken at the state level to expand and enhance this influence. The potential impact of digital human rights on the development of legislation in the field of intellectual property has been analysed; the prospects for introducing new and improving existing methods of protecting intellectual property rights in the digital space have been explored; the directions in which digital rights influence judicial practice have been identified; and the current activities of state authorities in Ukraine regarding the protection of intellectual property rights, including in cyberspace, have been examined. As a result, proposals have been formulated to improve the legislative framework concerning the protection of certain intellectual property objects and

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mechanisms for safeguarding intellectual property rights in cyberspace. Specific measures have been suggested that may be used in shaping approaches to evidence in judicial practice. Proposals have also been developed for enhancing cooperation between public and private sector entities in the field of intellectual property in cyberspace

Keywords: digital environment; cyberspace; digital content; copyright; methods of protecting digital rights; protection of intellectual property rights

Introduction

Research into the impact of the digital environment and digital human rights on intellectual property is relevant both theoretically and practically. The need for in-depth theoretical research into such an impact is due to the fact that the active development of technologies at the current stage of societal development has led to the emergence of digital human rights as a separate category of human rights, which were not originally intended to be a separate type of rights. In the field of intellectual property, such an impact is one of the most noticeable, however, the specifics of the implementation and mechanism of protecting digital rights in this area are insufficiently researched. The practical need for research into this issue is due to Ukraine's active involvement in global processes of developing protective mechanisms against violations of human rights in cyberspace. Thus, the Cabinet of Ministers of Ukraine reported that in 2024, Ukraine joined the group of countries that, in order to combat websites where violations of intellectual property rights occur, decided to combine their efforts in filling WIPO ALERT – a unified platform of the World Intellectual Property Organization, on which participating states can post lists of relevant websites that have been identified at the national level as being used to infringe intellectual property rights (Cabinet of Ministers of Ukraine, 2024a). To implement active steps in this direction, on 1st February 2024,

the Ministry of Economy of Ukraine issued Order No. 2945 “On Approval of the Procedure for Formation and Maintenance of the National List of Websites Raising Concerns Concerning the Observance of Intellectual Property Rights” (2024). In 2023, the new Law of Ukraine “On Copyright and Related Rights” No. 2811-IX (2022) came into full force, with certain provisions introducing new tools for protecting intellectual property in the digital environment. The study of the specifics of infringements in this area, as well as the improvement of methods and practical mechanisms for protection against such infringements, determines the special relevance of the research topic.

It should be noted that the legal nature of digital human rights and their impact on law enforcement is quite actively researched by scientists, including Yu.S. Razmyetayeva (2020) and O.V. Petryshyn and O.S. Hylyaka (2021). In this context, it is worth mentioning the study of O.B. Bratasyuk and N.F. Mentukh (2021), studied the problem of establishing the definition of “digital human rights” and the classification of digital rights in Ukraine. At the same time, scientists emphasised the need to highlight a separate group of “digital rights”. Scientists proposed to study digital human rights as a separate group of human rights that are associated with the use and/or implementation in the Internet network using special devices.

V.M. Baranovska (2024) in her research analyses key aspects and solutions to the problem of intellectual property rights in the digital age, including the role of legal norms, protective measures, innovation, and international cooperation. The researcher investigates how transformative processes that have taken place in the field of intellectual property in the digital environment have influenced the ways of regulating legal relations and mechanisms for protecting rights to objects of intellectual property. The researcher concludes with the need to introduce new cybersecurity measures and mechanisms to combat violations in cyberspace, given their specificity.

A.S. Zolotar (2023) conducts a comprehensive study of the protection of intellectual property rights in the digital environment. The researcher analyses the challenges of implementing digital technologies to protect intellectual property rights in the digital environment, as well as studying the state's policy in the field of digitalisation and informatisation of society. In turn, R. Adams (2023) in their research draws attention to the existing gap between the development of digital technologies, on the one hand, and the legal regulation of intellectual property, on the other. The researcher analyses possible ways to bridge this gap, such as modernising intellectual property legislation; strengthening cross-border law enforcement; promoting digital literacy and education in the field of copyright. D. Chakraborty (2023) focuses on the problems that arise at the intersection of copyright, intellectual property rights, and issues of data privacy in the online environment. The author examines the issue of balancing the rights of creators in the digital environment and the privacy of individuals.

This research aimed to determine the main directions of the impact of digital human rights on intellectual property. To this end, the article

will consider the main trends of such an impact and the specific steps that should be taken within these directions.

Materials and Methods

For the preparation of this research, both general scientific and special legal methods were used. The use of the functional method made it possible to consider modern methods of protecting intellectual property rights in the digital environment. Through the historical-legal method, the dynamics of legislation regarding the protection of intellectual property rights on the Internet were explored. The application of the typological method allowed for the identification and analysis of Ukrainian court approaches to evidence in cases concerning the protection of intellectual property rights in cyberspace. Formal logical methods were used to form the conclusions drawn during the research. The sequential use of these methods facilitated the investigation of the relationship between the development level of the digital environment and the need for regulatory legal frameworks, as well as the analysis and identification of the need to modernise relevant legislation. This is crucial for achieving the research's objective, particularly for determining the areas in which digital rights influence intellectual property and formulating proposals to enhance the effectiveness of their protection.

The Ukrainian legislation served as the normative basis for this study. In particular, the updated Law of Ukraine No. 2811-IX "On Copyright and Related Rights" (2022), the Law of Ukraine "On Electronic Communications" (2020), "On the Basic Principles of Ensuring Cybersecurity of Ukraine" (2017), and the Memorandum of Understanding Between the Ministry of Economy of Ukraine and the World Intellectual Property Organization on Cooperation in the Field of

Intellectual Property (2023), as well as other legislative acts were analysed. The study of the normative base made it possible to trace the dynamics of legislative development and determine the current needs for further improvement.

Additionally, the current judicial practice of the Supreme Court was analysed for the purposes of this research. In particular, the current practice in cases of infringement of intellectual property rights in the digital environment was examined, which made it possible to study the approaches of courts to evidence in such cases and to formulate proposals for the further formation of law enforcement practice. Documents adopted by Ukrainian government executive bodies defining strategic directions for development in the field of digitalisation and intellectual property, analytical reports of specialised public organisations, such as the Concept of the Draft National Strategy for the Development of the Intellectual Property Sphere of Ukraine until 2030 (2024) and the Analytical report of the NGO "Human Rights Platform" (2023), were used. Furthermore, as methodological and theoretical guidelines, the scholarly studies of scientists who have researched the issues of digital human rights and the protection of intellectual property rights in the digital environment were used.

Results and Discussion

Digital human rights, both in general and in the context of intellectual property, are inextricably linked to the concepts of digital space, digital content, digital goods, and cyberspace. In legal science, there is no unified approach to defining these concepts. V.M. Trotska (2021) identifies the following as the most common characteristics of the digital environment: cross-border nature, dematerialisation, intensive development of the

information and knowledge market, anonymity, communicativeness, and multi-functionality.

As L.M. Savanets and G.M. Stakhira (2019) rightly point out when characterising digital content, it is advisable to emphasise its dual legal nature, which consists, in particular, of the fact that digital content simultaneously exists in material and immaterial forms of expression. In other words, on the one hand, it exists as a digital carrier, and on the other, as information that is placed and distributed in cyberspace (data generated and delivered only online). A consequence of this specificity of digital content is the need to analyse it simultaneously in two directions: as an object of civil rights, in particular, an intangible asset, on the one hand, and as a materially expressed object in a certain form, on the other. In the first case, digital content should be studied as a result of intellectual, creative activity; information; and human rights that relate to personal non-property rights – that is, a corresponding type of intangible asset. In the second case, the analysis should focus on the objective form of expression in the digital space and the influence of this form on the peculiarities of the acquisition, exercise, and termination of civil rights and obligations.

The specificity of digital content also lies in the fact that its properties allow it to be simultaneously classified as both an object of intellectual property and a thing of the material world, covered by the legal regime of property rights. This is due to the special form of digital content. According to V. Milash (2017), digital content should be understood as information contained in a specific source and expressed in a specific form. Scientists L.M. Savanets and G.M. Stakhira (2019) pay special attention to the specificity of the form of digital content and emphasise that it is precisely the unique form of digital content (binary code) that is the criterion based on which the

corresponding content can be qualified as an object of copyright – a work that is the result of human creative activity.

It is necessary to agree with the opinion of K.H. Nekit (2021), who emphasises the possibility of classifying digital content as objects of the material world. As a result, K.H. Nekit (2021) concludes that, given the characteristics of digital goods, there are grounds for extending the property rights regime to them, since they possess the characteristics of things of the material world. Thus, digital human rights are inextricably linked to the digital environment and digital content, which, given its specific form, has a mixed legal nature.

A broader and more general concept concerning “digital space” and “digital content” is “cyberspace”. As of 2024, the latter is defined by law as an environment (virtual space) that provides opportunities for communication and/or the implementation of social relations, formed as a result of the operation of interconnected communication systems and the provision of electronic communications using the Internet and/or other global data networks (Law of Ukraine No. 2163VIII, 2017). Thus, cyberspace is an information field that has emerged as a result of the operation of these information systems, and simultaneously a plane within which digital rights can be acquired and exercised.

Digital human rights are often defined as a group of human rights that are in some way connected to the Internet, specifically, are realised within this network or through its use. Based on this interpretation, O.B. Bratasyuk and N.F. Mentukh (2021) classify as digital human rights as precisely those rights that are directly related to the Internet space. The scholars refer to the right to access the Internet, freedom of expression online, and other rights that can only be realised in the Internet space.

Such an approach to digital human rights is somewhat narrow, as it is advisable to include in digital rights any rights, the acquisition and/or realisation of which occurs within cyberspace. For example, copyright and related rights to objects created or distributed in a digital environment; the right to respect for honour and dignity, and protection of business reputation. That is, any human right that can be realised in the digital environment or with its help is digital. Thus, digital human rights encompass both the aforementioned rights and other rights for the realisation, observance, and protection of which the digital environment is relevant. Based on this, digital human rights, on the one hand, have a specificity determined by their form and sphere of functioning, and on the other hand, retain the essential characteristics of the corresponding rights outside the digital space.

While supporting the need for a broad approach to interpreting human rights, it must be acknowledged that even such a list of rights is not static or unchanging. They are in a constant state of dynamic development, during which new rights appear in this area from time to time. For example, the judgment of the Court of Justice of the European Union in the case of *Google Spain SL, Google Inc. v. Agencia Española de Protección de Datos, Mario Costeja González* (2014) initiated a new concept - the “right to be forgotten”. After the publication of this judgment, the right to be forgotten became one of the important digital human rights in cyberspace. The right to be forgotten is proposed to be understood as the ability of an individual to oppose the continued presence in cyberspace of information about that person that is accessible to other subjects if it is outdated, inaccurate, irrelevant, or for other reasons.

According to N. Androshchuk (2019), the right to be forgotten can be realised by granting an individual the right to demand the removal

of information about themselves from publicly available sources in cyberspace if, in their opinion, such information violates or may violate their rights. D. Chakraborty (2023) draws attention to the fact that finding a balance between intellectual property rights and personal data is one of the most challenging tasks, one way of addressing which may be the application of technical means that allow authors to protect their copyrights while respecting their personal data.

As of 2024, the scale of development of digital rights has reached such a level that more and more scholars support the idea of constitutionalising digital human rights. In this connection, an increasing number of scholars propose singling out digital law as a separate branch of legal regulation. For example, according to N. Verlos (2022), there are grounds for singling out digital law as an independent branch of legal regulation. In addition, the scholar draws attention to the formation of an interdisciplinary institute of digital human rights and emphasises the need for the constitutionalisation of digital rights while simultaneously noting the existing gaps in their legal regulation. V.M. Beschastnyy *et al.* (2022) adhere to the view that digital constitutionalism recognises the priority of ordinary constitutional standards over specific regulations that operate in the digital environment (ethical rules, laws, etc.) and the need to take into account the features of traditional constitutionalism (organisational, legal, and others) when regulating relations in cyberspace with its specific rules. At the same time, the process of constitutionalising digital rights has its own specificity, determined by the features of these rights and the objects of civil circulation in the digital environment.

As a result, the development of digital rights, including in the field of intellectual property, leads to the emergence of separate regulatory

documents that extend their application to the digital environment (for example, ethical codes, rules, charters on freedom on the Internet, etc.). Such documents are developed at the national or international level, and can also be developed and implemented at the non-state level by the participants of the relevant legal relations themselves.

An example of such a document is the Okinawa Charter on Global Information Society (2000), which establishes measures between states in the field of optimising global networks, combating abuses, and aimed at reducing disparities in the development of digital technologies.

When developing such documents, the specific nature of intellectual property objects as such, as well as their features due to their functioning within cyberspace, are taken into account. Relationships within cyberspace are characterised by features such as the presence of specific (virtual) subjects; the virtuality of certain objects (virtual assets); the specifics of the form of concluding transactions and communication between participants in legal relations (electronic document management, online communication), and the possibility of using various technical platforms/platforms. According to O.M. Vinnyk (2022), considering these specificities enables the formation of new perspectives and approaches for optimising various issues that are relevant to business entities, such as gaining competitive advantages, monopolising markets, recognising transactions as void, determining the responsible party for committing an offence within the digital environment, and mechanisms for compensating damage caused by such violations. Thus, digital human rights are realised in a clearly defined digital environment, which has an impact on the mechanism of their realisation, potential violations, and methods of protection. All these features are particularly relevant to the field of intellectual property.

Digital human rights are shaping new needs for the development of the most relevant methods and mechanisms for protecting intellectual property. Ensuring reliable legal protection for digital human rights, including in the field of intellectual property, is driven, on the one hand, by the internal needs of the subjects of the relevant legal relations, due to the need to adapt the regulatory framework to the current state of development of digital technologies. On the other hand, Ukraine's active steps in this direction are conditioned by its obligations undertaken in connection with the signing of the Association Agreement (2014), which provides for, among other things, the harmonisation of Ukrainian legislation with European legislation. As noted by the American scholar R. Adams (2023), given the global nature of the spread of digital content, it is extremely important to improve cross-border law enforcement mechanisms for protecting intellectual property rights.

For effective protection of intellectual property rights in the digital environment, it is important to further develop and improve the regulatory framework, which would make it possible to properly identify intellectual property objects to ensure the prerequisites for their reliable protection in court. One of the notable directions of the impact of digital rights on intellectual property should be called the implementation of such an impact through the expansion of opportunities for the protection of copyright in the Internet space. In Ukraine, such an impact has manifested itself in the following measures. The first steps in this direction have already been taken by the legislator.

In the process of rapid development of legislative activities in Ukraine regarding the protection of digital rights, the Law of Ukraine "On Copyright and Related Rights" No. 2811-IX (2022) provided specific provisions for the protection of

rights in the field of intellectual property. In particular, the Law of Ukraine No. 2811-IX (2022):

- regulated issues concerning the legal regulation of the protection of databases (compilations of data). In particular, such objects are subject to copyright protection if, by the selection and/or arrangement of their components, they are the result of creative activity – Article 21 of the Law of Ukraine No. 2811-IX (2022);

- for the first time at the legislative level, issues regarding copyright in intellectual property objects created as a result of the application of artificial intelligence have been regulated. In particular, a *sui generis* right has been established for non-original objects generated by a computer program. As a result, users who create copyrighted works using artificial intelligence have obtained a legal basis for protecting proprietary rights to such objects – Article 33 of the Law of Ukraine No. 2811-IX (2022);

- the obligations of content-sharing service providers, i.e., owners of websites where relevant works are stored and/or access to copyrighted works are provided, have been defined in the event of receiving information regarding the infringement of copyrights and related rights. It has been determined what measures should be taken by such providers upon receipt of claims from copyright/related rights holders regarding the infringement of their rights on the relevant website, and what conditions such claims must meet. In particular, a content-sharing service provider must terminate access to the relevant content on its own website within 48 hours of receiving a claim regarding the infringement of copyrights/related rights by such content – Article 58 of the Law of Ukraine No. 2811-IX (2022);

- the conditions under which website owners are exempt from liability in case of copyright infringements using their web resources have

been stipulated. In addition, the conditions under which a website owner has the right to refuse to satisfy a claim of copyright infringement have been defined – Article 56 of the Law of Ukraine No. 2811-IX (2022).

The development of a legislative framework aimed at establishing mechanisms for the protection of intellectual property in the digital environment requires further improvement. Even though several categories necessary for the protection of intellectual property in the digital environment have been defined at the legislative level, not all of them have found their normative definition. Therefore, at the stage of protecting intellectual property rights from infringements, it is extremely important to determine the criteria by which an object in the digital space is covered by the right that has been infringed. For example, in its practice, the Supreme Court has noted that to establish the fact of counterfeiting a work in court, a legal assessment of the nature of this object must first be provided and it must be confirmed that it is indeed a copy of the work (Resolution of the Supreme Court in the Case No. 904/702/21, 2023). In turn, the absence or insufficient clarity of the criteria enshrined in the legislation for classifying a particular object in cyberspace as an object of intellectual property, or the provision of insufficiently clear regulation of the mechanisms for protecting intellectual property rights in cyberspace can lead to the impossibility or significant complication of their implementation and protection.

International judicial practice offers valuable insights in this context. For instance, the Delhi High Court (India), while considering a case of intellectual property rights infringement, took into account, as a separate piece of evidence in favour of the plaintiff to confirm the copyright infringement, the uncertain status of the website through which the copyright infringement was committed,

as well as the atypical activity of such a website, which allows it to be classified as one used by the defendant for illegal activities (Digital Piracy and Copyright Infringement, 2024).

Therefore, the impact of digital human rights in this direction should manifest in the maximum diversification of intellectual property objects, in particular copyrighted works, at the legislative level, which would include a detailed description of all the essential features of such objects. In addition, it is advisable for Ukraine at the level of the Supreme Court to form generalisations of legal positions and judicial practice, to unify the criteria both for the subject matter of the claim, methods of protection, and the set of evidence, the use of which would ensure effective legal protection.

The specific impact of digital rights on intellectual property is evident in Ukraine's participation in the WIPO ALERT platform, an international initiative aimed at combating websites that infringe on intellectual property rights (Cabinet of Ministers of Ukraine, 2024a). To effectively fulfil its obligations within this framework, the Ukrainian Ministry of Economy issued Order No. 2945 "On Approval of the Procedure for Formation and Maintenance of the National List of Websites Raising Concerns Concerning the Observance of Intellectual Property Rights" (2024), establishing a procedure for compiling such a list. This order followed the signing on July 24, 2023, of a Memorandum of Understanding between the Ministry of Economy of Ukraine and the World Intellectual Property Organisation on cooperation in the field of intellectual property (2023). This memorandum envisages further expansion of innovation and support for the development of intellectual property, taking into account the state of war, including attracting international technical assistance and financial resources to meet the needs of Ukraine's intellectual property and innovation

sector; supporting small businesses, researchers, and representatives of the creative sector affected by the war; and strengthening the capacity and providing support to Ukrainian institutions in accessing patent and non-patent databases. Additionally, the Memorandum provides for the adaptation of Ukraine's National Strategy for the Development of the Intellectual Property Sphere, taking into account the negative consequences of the war on intellectual property, among other things.

It is believed that Ukraine's active participation in international activities aimed at ensuring the establishment of a systematic fight against intellectual property infringements in cyberspace will contribute to increasing the level of protection of digital human rights and reduce the number of intellectual property rights infringements in the digital space (Order of the Ministry of Economy of Ukraine No. 2945, 2024). As of 2024, copyright and/or related rights holders have the opportunity to submit to the Ukrainian National Office for Intellectual Property and Innovations (UANPIO) relevant applications for inclusion in the national list of a website that, in their opinion, infringes copyright or related rights, or raises concerns about the observance of intellectual property rights (Order of the Ministry of Economy of Ukraine No. 2945, 2024). It is advisable to expand such activities at the national level, involving mechanisms to combat not only the operation of websites that infringe intellectual property rights but also other platforms for infringements in the digital environment and individual persons, for which to create their respective registers and unify the methods of reporting and responding to the facts of infringements of intellectual property rights committed with their participation.

At the same time, it must be acknowledged that, overall, after the full-scale invasion in 2022 and the introduction of martial law, national

legislation regarding the regulation of special mechanisms for blocking web resources that violate human rights and threaten national security was significantly improved, which led to a significant number of violations (Analytical report of the NGO..., 2023). Thus, before the full-scale invasion, the possibility of blocking web resources or certain illegal content was defined by Law of Ukraine No. 1089-IX "On Electronic Communications" (2020) and Law of Ukraine No. 2811-IX "On Copyright and Related Rights" (2022). These laws, respectively, established rules for restricting access to sites that distribute child pornography and introduced rules for restricting the distribution of illegal content. After the beginning of the full-scale invasion, national legislation was supplemented by regulatory acts that introduced new mechanisms for blocking the relevant Internet resources.

In May 2022, amendments were made to the Law of Ukraine No. 1089-IX "On Electronic Communications" (2020) that imposed an obligation on telecommunications network operators to comply with the orders of the National Centre for Operational and Technical Management of Electronic Communication Networks of Ukraine under conditions of emergency or martial law (Article 18). Such orders may include the blocking of web resources, as according to paragraph 14 of the "Procedure for Operational and Technical Management of Telecommunication Networks in Emergency Situations, State of Emergency or Martial Law" (2004), the National Centre for Operational and Technical Management of Electronic Communication Networks of Ukraine and network management centres, in agreement with the State Special Communications Service Administration, may, by the law, allow for some degradation of service quality and impose temporary restrictions on the provision of services until the

emergency is eliminated, and the state of emergency or martial law is lifted.

In January 2023, the National Centre for Operational and Technical Management of Telecommunication Networks of the State Service of Special Communications and Information Protection of Ukraine issued Order No. 71/854 "On Blocking Domain Names" (2023), obliging Ukrainian internet providers to establish a blocking system that automatically downloads a list of addresses every 15 minutes, access to which must be blocked. This list of addresses is created by the cyber incident response team in the Ukrainian banking system, which is part of the Cyber Security Centre of the National Bank of Ukraine.

In March 2023, the Law of Ukraine No. 2849-IX "On Media" (2022) came into force, granting the National Council on Television and Radio Broadcasting of Ukraine the authority to decide on blocking access to web resources. Specifically, Article 36 of the Law of Ukraine "On Media" (2022) prohibits media and common access platforms from disseminating certain types of information (calls for violent change, the overthrow of the constitutional order, the unleashing or conduct of aggressive war or armed conflict, violation of the territorial integrity of Ukraine, the liquidation of Ukraine's independence, information that justifies or promotes such actions, etc.). These new provisions allow for the blocking of web resources that pose a threat to national security through a simplified procedure.

As a result, several effective mechanisms have been developed for blocking internet resources that violate human rights and pose a threat to national security. The experience of using such mechanisms can be used to combat web resources that infringe intellectual property rights. To do this, it is necessary to establish a separate procedure for blocking such resources,

criteria for such blocking, and to grant UANIPIO or another institution the authority to make decisions regarding such blocking. Such a procedure can be enshrined in the form of a separate by-law dedicated to its regulation.

The development of digital human rights also leads to the emergence of new and specific ways to protect intellectual property rights. Scientists propose several specific tools for protecting such rights in the digital environment. For example, O.M. Pastukhov (2002) investigated methods for verifying the number of cases of paid use of copyrighted works on the Internet. Among such methods, the scientist mentions: access codes; rights management wrappers; hardware; executable programs; centralised computing; digital certificates; clearinghouses; and sales of physical copies. In the opinion of the authors of this study, the correct approach in this context is one that distinguishes between specific tools used to prevent and avoid violations and those designed to stop an ongoing infringement that has already occurred.

Technologies for protecting digital human rights are also actively developing, which simultaneously helps to minimise infringements of intellectual property rights in the digital environment. New technologies are emerging that help to implement such mechanisms. One such technology is blockchain. The opinion that there are separate, independent, and significant factors that indicate the expediency of introducing blockchain technology into national practice to strengthen the protection of intellectual property rights in cyberspace seems correct. In particular, A.S. Zolotar (2023) draws attention to the following factors:

1) the ability of blockchain technology to facilitate the identification of users of a particular web resource. In this case, identification can occur without the use of passwords or other

identification technologies that can only be applied with consent and under the conditions of certain user actions. Identification can be carried out both through standard methods (obtaining access to accounts in mobile applications and websites), and by signing smart contracts (in the field of intellectual property circulation);

2) the potential use of blockchain technology for data registration and accounting purposes (development of a register of persons who have rights to intellectual property objects, which would contain information about the authors of the relevant intellectual property objects, right holders, the time of acquisition of the relevant rights, etc.);

3) the possibility of using the technology as an element of more complex systems to increase the efficiency and security of the circulation of intellectual property rights.

Therefore, the use of this technology could hypothetically minimise the number of infringements of intellectual property rights in the digital environment. However, Ukraine currently lacks any regulatory framework governing the use of this technology to protect intellectual property rights from infringement. Given this, it is considered expedient to introduce such protective procedures for protecting these rights using this technology at the legislative level, as well as to adopt subordinate by-laws to implement them, which would detail the practical application of this technology.

Furthermore, digital rights management (DRM) technologies are also actively developing. I.V. Puzdranovskyy and O.V. Saliyeva (2023) note that within such technologies, types of protection such as setting certain restrictions for users on performing certain actions with digital content (for example, restrictions on saving, editing, and printing the material) or on using digital

content (for example, setting a certain maximum allowable number of downloads, etc.), introducing restrictions on access to digital content from certain locations or devices, etc. can be applied. It is advisable to enshrine them at the regulatory level, which will contribute to their systematisation and also allow for a more efficient process of implementing such technologies.

The impact of digital rights on intellectual property in the context of jurisdictional, particularly judicial, means of protection requires separate research. In this context, the issue of the extraterritoriality of digital rights is relevant, which has been noted by some researchers. For example, I.S. Kanzafarova (2019) draws attention to the problematic nature of determining the jurisdiction of courts of different states to file lawsuits, as well as enforcing relevant court decisions, given the use of “bitstreams” (BitTorrent) in information exchanges. The scholar notes that this problem is caused by the location and downloading of copyrighted works in different countries. Applying to a court in such a case must be preceded by the development of an evidence base that would confirm the commission of the relevant infringement by a specific entity, as well as a justification for the jurisdiction of Ukrainian courts over such a dispute. At the same time, it is expedient to introduce appropriate changes to both the substantive law at the legislative level and the procedural law, which would establish, on the one hand, clear criteria for legal protection, and on the other hand, requirements for the scope and type of specific evidence that would meet the requirements of admissibility, and the procedure (form) of their submission to the court. In particular, it is considered expedient to consolidate such criteria in the Law of Ukraine No. 2811-IX “On Copyright and Related Rights” (2022), as well as to specify the standards of proof of relevant infringements in

the procedural codes of Ukraine. Therefore, when protecting intellectual property rights from infringement, it is crucial to determine the criteria by which the object in the digital space is covered by the right that has been infringed.

A striking example of the consequences of insufficient regulatory frameworks for judicial protection of intellectual property rights can be found in the Resolution of the Kyiv Court of Appeal in case No. 759/8347/23 (2023). In this ruling, the court concluded that the provisions of paragraph 15 of Article 56 of the Law of Ukraine No. 2811-IX "On Copyright and Related Rights" (2022), according to which the owner of a website/webpage is not liable for copyright and/or related rights infringements committed using the Internet, if after committing such an infringement, he or she has timely taken the actions provided for in part three of this article to cease such infringement, does not apply in the case of an infringement committed using Telegram, since the latter is a program, not a website/webpage. The court concluded that there were no grounds for exempting the infringer from liability based on the said norm since the said article of the Law of Ukraine No. 2811-IX "On Copyright and Related Rights" (2022) provides for such exemption in cases of infringement committed using a website or webpage.

In this context, it is worth noting the Digital Services Act (2022) adopted by the European Parliament, which contains provisions that create a so-called "safe harbour" system for online platforms. According to these provisions, online platforms are not liable for digital content transmitted or hosted on their services provided that they are not aware that the content is unlawful or infringes copyright, take immediate action to remove or block access to such content as soon as they become aware of it, and ensure appropriate procedures for receiving and considering

notices of alleged infringement (Digital Services Act..., 2022).

The introduction of separate regulatory frameworks and the formation of stable legal positions regarding proof in cases involving the protection of intellectual property rights in the digital environment is of crucial importance. Due to the lack of clear approaches in legislation and practice to the means of proof for the protection of digital rights, proving their infringement is often complicated. For example, in the Resolution of the Supreme Court in case No. 760/16961/19 (2023), the court, considering a dispute over authorship of a computer program, dismissed the claim and found the expert opinions insufficient to prove such authorship, as they established that the copy of the computer program (in the form of a part (fragment) of the source code) according to the certificate did not contain signs of a full-fledged computer program, i.e., the fragment of the source code was not sufficient to identify the work. The court noted that the original computer program was not attached to the case materials by the claimant, which precluded the court from establishing the circumstances that are significant for the case due to the insufficient amount of materials provided for examination.

In another case, No. 910/11453/21 (2024), the Supreme Court dismissed the appeal against the decisions of the lower courts to deny the claim for the protection of rights to a commercial designation, justifying its decision by the absence in the case materials of sufficient evidence to confirm that the relevant disputed computer program was indeed used by another person specifically to designate their commercial designation.

The specifics of digital rights infringements in the digital environment also have a significant impact on intellectual property. Cybercrime is constantly refining its methods and means of

infringing intellectual property rights, requiring the constant development of law enforcement activities to counter and combat such infringements. Copyright infringement on the Internet can be both direct and indirect. A.K. Lisovyi (2021) classifies the former as piracy, plagiarism, forgery, and other infringements that directly involve the unlawful use of a copyrighted work. According to A.K. Lisovyi (2021), indirect infringements should include actions that contribute to creating conditions for copyright infringement but are not direct infringements themselves.

It should be noted that despite the rather significant prevalence of intellectual property rights infringements, including in the digital environment, international institutions have noted Ukraine's positive progress in combating and fighting against such infringements. For example, the United States Trade Representative (USTR) in its "Special 301 Report" for 2024 concluded that even during the war, Ukraine made significant progress in the field of intellectual property rights protection (Cabinet of Ministers of Ukraine, 2024b). At the same time, it is considered expedient to continue further active steps to combat infringements of intellectual property rights, including in the digital space. As of the second half of 2024, the process of developing a Concept of the Draft National Strategy for the Development of the Intellectual Property Sphere of Ukraine until 2030 (2024) is ongoing, the concept of which was presented in April of this year. In the opinion of the authors of this article, a separate section should be included in this document outlining future activities to combat infringements of intellectual property rights in the digital environment. Within this section, it is considered expedient to provide for (1) the improvement of the legislative framework, in particular, in terms of strengthening the liability of all participants

in digital relations for both direct infringements and actions that may contribute to infringements of intellectual property rights; (2) the systematic implementation of measures to encourage and popularise the development and use of technologies that make it more difficult to infringe intellectual property rights; (3) the systematic implementation of measures to encourage and develop cooperation between public and private sector entities aimed at stopping infringements of intellectual property rights in cyberspace.

Conclusions

Overall, the results of the conducted research indicate that the development of digital rights has a significant impact on intellectual property. In the future, this impact will expand and require timely regulatory adjustments, as significant gaps between the state of social relations in this area and legal regulation noticeably reduce the effectiveness of mechanisms for realising and protecting intellectual property rights in the digital environment.

The research has shown that digital human rights in the field of intellectual property have their own specific features, which cover the process of forming the objects of such property and require clarification of their individual criteria, as well as determine the specifics of protecting such rights, and define the activities of the public and private sectors aimed at strengthening mechanisms to counter violations of rights to objects of intellectual property in the digital environment. For effective protection of such rights, it is necessary to consider both their specificity as objects of intellectual property and the features of the digital environment.

It has been established that the development of digital rights is influencing both the legislative framework and judicial practice, necessitating their modernisation and the development of

unified approaches. As an analysis of judicial practice in cases of intellectual property rights infringements in the digital environment shows, there are currently no unified approaches among courts regarding standards of proof. Often, the lack of clarity in the legislation and the absence of unity in judicial practice significantly complicates the judicial protection of rights.

The research has formulated proposals for the further effective protection of intellectual property in the digital environment. In particular, measures have been proposed to improve the legislative framework, including detailing provisions on the legal protection of specific objects of intellectual property, as well as introducing new mechanisms for protecting intellectual property rights in cyberspace from infringements. Recommendations have been developed for the unification of judicial practice, in particular, the development

of legal positions that would generalise the approaches of courts to methods of proof, evidence, and the scope of the subject matter of proof to effectively protect rights in the field of intellectual property. Proposals have been formulated to encourage and popularise the development and use of technologies that make it more difficult to infringe rights on objects of intellectual property. Conclusions have been drawn about the need for further encouragement and development of cooperation between public and private sector entities aimed at stopping infringements of intellectual property rights in cyberspace.

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Conflict of Interest

None.

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Цифрові права людини та їх вплив на інтелектуальну власність

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Анотація

Комплексні дослідження впливу цифрових прав людини на інтелектуальну власність є актуальними, оскільки це має важливе значення для цілей створення теоретичної бази та подальшого розвитку позитивного впливу цифрових прав людини на розвиток інтелектуальної власності. Метою цієї статті було проведення аналізу пріоритетних напрямків впливу цифрових прав людини на інтелектуальну власність. При проведенні дослідження було використано функціональний, історико-правовий, синергетичний, формально логічні методи. У статті було розглянуто основні сфери впливу цифрових прав людини на інтелектуальну власність. Було досліджено конкретні кроки, що здійснюються на державному рівні з метою розширення та удосконалення такого впливу. Проаналізовано можливий вплив цифрових прав людини на розвиток законодавства у сфері інтелектуальної власності; перспективи запровадження нових та удосконалення існуючих способів захисту прав інтелектуальної власності у цифровому просторі; визначено напрямки впливу цифрових прав на судову практику; досліджено поточну діяльність державних органів України у напрямку захисту прав інтелектуальної власності, у тому числі в кіберпросторі. У результаті, сформульовано пропозиції щодо удосконалення законодавчої бази в частині заходів охорони окремих об'єктів інтелектуальної власності та механізмів захисту прав інтелектуальної власності в кіберпросторі; запропоновано конкретні заходи, що можуть використовуватися при виробленні підходів до доказування у судовій практиці; розроблено пропозиції щодо удосконалення співпраці між суб'єктами державного та приватного секторів у сфері інтелектуальної власності в кіберпросторі

Ключові слова: цифрове середовище; кіберпростір; цифровий контент; авторське право; способи захисту цифрових прав; захист прав інтелектуальної власності