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Liability Issues of Public Decentralized Platforms Based on Blockchain Technology: Administrative Law Aspect

Diana A. LYSENKO[1*]

[1] *Yaroslav Mudryi National Law University, Ukraine*
** Corresponding Author's Email: dianalysenko11.08@gmail.com*

Проблеми юридичної відповідальності публічних децентралізованих платформ на основі технології блокчейн: адміністративно-правовий аспект

Лисенко Д. А.[1]
[1] *Національний юридичний університет імені Ярослава Мудрого, Україна*

Проблемы юридической ответственности публичных децентрализованных платформ на основе технологии блокчейн: административно-правовой аспект

Лысенко Д. А.[1]
[1] *Национальный юридический университет имени Ярослава Мудрого, Украина*

Abstract

Background: *The interaction of technological progress and social phenomena is one of the main factors in the development of mankind. This paper focuses on one of such technologies that impacts the world not only technically, but also socially. Particularly, the article is dedicated to the question of possible legal issues that may appear within the use of public decentralised blockchain-based platforms, namely the liability which arises from functioning of such platforms within administrative law.*

Purpose: *Analysis of potential legal framework concerning liability relationships in the creation and operation of decentralised public platforms.*

Materials and Methods: *In order to carry out this study, such methods were used: dialectical, systematic, historical and logical. As for specific legal research methods, it can be mentioned mainly the formal legal and comparative legal methods.*

Results: *Current development of blockchain technology operations and risks connected with its implementation were studied. It is established, that although the value aspect of blockchain technology is well researched, the role of blockchain technology as a new instrument of influencing the balance of existing social and individual values is still not fully understood. The basic concepts of liability of public decentralised platforms which are based on blockchain technology was explored. It was done within the administrative law context and explained why exactly administrative liability is the most applicable.*

Conclusions: *Therefore, a well-structured list of main liability-related issues regarding public decentralised platforms based on blockchain technology was established.*

Keywords: *blockchain, liability, administrative law regulation, public decentralised platforms.*

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Introduction

The processes of the development of public relations and their sociological, historical and civilizational transformations were constantly accompanied by bifurcation points of the social and technogenic. For example, the transition from bronze to iron as the basic

material for the production of tools was a major factor in the gradual rise of agriculture as the dominant form of social organisation; the development of a new type of ship - the caravel - and significant progress in cartography and maritime navigation in the 15th century made it possible to make The Age of Discovery; and the development of the World Wide Web by Tim Berners-Lee and Robert Cailliau changed the way humanity exchanges and stores information forever, creating the basis for the Internet.

All these technological breakthroughs in one way or another changed the very structure of social relations, since the new technology either represented a certain value in itself or significantly altered the balance and nature of the distribution of existing values. Its emergence therefore created the need to rethink approaches to equitable coexistence in the new reality - hence the need to rethink the organisation of social regulators.

In its turn, law itself, as one of its varieties, has always played a special role in the totality of social regulators. Law itself, as a system of norms, through its support by the possibility of state coercion and the existence of a regulated rulemaking procedure, could and can play a certain practical correspondence to societal version of Kantian "maxim of will" in relation to controversial and new social issues. By and large, the quality of normative regulation is a reflection of society's general level of understanding of the issue governed by a particular legal rule. Moreover, normative regulation is not a rigid category, and hence its study allows not only to satisfy certain epistemological needs of researchers of social contexts, but also to develop ways of improving the phenomenon under study and, in case of existence of a legal lacuna, to suggest a way of overcoming it. This is the ambitious goal of this study.

Blockchain technology, while relatively young, with just over 12 years since its first Bitcoin implementation in 2009, is, without exaggeration, a factor that has revolutionised the way transactions are conducted in the broadest sense of the term.

The unique principles that underpin the internal architecture of the transaction support process within the blockchain system completely redefine the transmission and storage of information and the value of intermediaries to that process, which, when the technology is functioning correctly, is virtually nullified.

While the inner-value aspect of blockchain technology is, in our view, well researched by different academic, the role of blockchain technology as a new tool to influence the balance and distribution of existing social and individual values is still not fully understood. This is primarily due to the fact that the initial application of the technology was specifically to cryptocurrencies, and therefore other aspects of blockchain's practical application are not yet as well developed, either infrastructurally or socially. However, the potential for blockchain technology to impact other aspects of society is quite high and worthy of special attention, as blockchain is primarily designed to store data, and human data as well. Given that we live in the age of digital products (Pypenko, 2019) and information, and the world is led by who should and knows how to use information correctly, and that offences related to information leakage are becoming among the most relevant and dangerous, the relevance of research and the development of basic concepts of responsibility for the use of blockchain technology becomes crucial.

An important note should be made with regard to the definition issue concerning subject matter of this paper. The author is well aware of existing controversies on characterisation of liability in different dimensions of law (particularly, in international law), and therefore notes, that in relation to the present paper term "responsibility" should not be regarded as exclusive to the term "liability" in any way. Rather, the former should be regarded as specification of the latter in the context of administrative law.

The aim of the study. Analysis of potential legal framework concerning liability relationships in the creation and operation of decentralised public platforms.

Materials and Methods

For the purposes of this study, the following methods were used: dialectical, systematic, historical and logical. In addition, sectoral legal research methods were used in the study: formal legal and comparative legal methods.

Results and Discussion

Blockchain technology is a digitised, decentralised register of events operating online within a single network of nodes (e.g. computers) and continuously populated with new blocks (events, transactions) in chronological order without centralised record keeping (Lyashenko & Vishnevsky, 2018). Cryptography architecture is used to identify the parties to the communication within the network. The registration of a new event occurs after agreement (consensus) within the network according to a certain rule. This consensus is formalised by means of a new block. Each node receives a copy of the corresponding transaction, which is downloaded automatically. Copies of the chains of blocks created are stored independently of each other on all nodes in the network.

As Kud (2019) notes, after the emergence of Bitcoin in 2009, which was a new phenomenon in the field of economics, at the same time, blockchain technology has been developed, into a system of common certain rules, where each successive block contains information about the previous one. Such blocking works to provide security and clarity to transactions and processes derived from it, which is the reason that this technology is based on its application in many fields (Kud, 2021a). One cannot but agree with Kud (2019), who points out that such tendencies have a bearing on the development of a civilised economy and have attracted much interest from sociality towards the phenomenon of digital assets in particular. For our part, we would like to add that, as it affects the economy, which is a fundamental component of the functioning of society (Kraus et al., 2018), blockchain's impact is

rapidly spreading beyond one industry (Pypenko & Melnyk, 2020), undoubtedly leaving its mark on others as well.

This rapid development and proliferation of blockchain platforms rightly raises vital questions of various kinds (Kraus et al., 2018). There are number of researches, indicating that if we focus on issues of a technical nature, everything seems more or less resolved here, because as technology advances and artificial intelligence possibly interacts with blockchain platforms, the latter will evolve rapidly and efficiently, becoming more efficient in the process of data storage and acquiring new qualitative and quantitative characteristics (Kud et al., 2020; Kud & Pypenko, 2018). However, along with this, one of the key unresolved issues remains the problem of responsibility. Lyashenko and Vishnevsky (2018) made a good point about the existence of personal responsibility or collective irresponsibility in this context. While partly agreeing with this statement, it should be noted that, in our view, both personal and collective responsibility can have signs of both active action (responsibility) and passive action (irresponsibility). This is why it should be noted that individuals as well as groups of individuals or societies can be equally responsible and/or irresponsible, necessarily taking into account the specifics of their subjective status.

So, what questions might arise in general? For example, the first one that comes to mind is: what will cryptocurrency platform participants do if such platforms are damaged, or if they are destroyed altogether? What would be the mechanism for recovery? Would there even be any possibility of recovering the funds invested or information stored? As Lyashenko and Vishnevsky (2018) again pointed out, a kind of "cryptocurrency deposit guarantee fund" does not exist yet, and is unlikely to exist at all, because the main characteristic and attractive feature of such platforms is their complete decentralisation and lack of subordination to a person or the state. In fact, the current concept now proceeds from the rather unfounded assumption that there can be no such problems now or with further development.

We certainly do not want to believe only in a bad blockchain development scenario, but it is neither farsighted nor serious to leave it unattended, hoping for the continued robust operation of blockchain.

The interest in taking a realistic view of things, with particular attention to possible negative developments in the blockchain process, can be explained by the fact that there are both tangible and intangible consequences in case of certain problems (Pypenko & Melnyk, 2021). Starting materially, as of February 2021, Bitcoin has already reached a capitalisation of one trillion US dollars and is gradually becoming an accessible payment instrument thanks to integrations with Visa, Master, PayPal, not to mention other cryptocurrencies, in which no small amount is also invested (Drobotya, 2021; Lyashenko & Vishnevsky, 2018). Consequently, it is not hard to imagine the damage that could be done in the event of certain technical failures. Moving away from cryptocurrencies, because as mentioned in the beginning of this article that blockchain is not just about cryptocurrencies, we can say that in the case of big data processing information of large corporations or entire nations, if such information is leaked, the harm can reach even greater proportions and consequences than for ordinary cryptocurrency depositors. Walmart, for example, uses blockchain to track shipments from suppliers and reduce the risk of product spoilage and contamination. The company has already registered 50 blockchain-related patents. Hard drive maker Seagate is using technology to identify and prevent counterfeiting, and insurer Metlife can instantly make payments to pregnant women diagnosed with gestational diabetes (Castillo, 2019). Finally, Estonia launched blockchain-based government platform e-Residency, with functions, ranging from validating records in government databases, such as birth and marriage certificates to the introduction of the concept of e-living as a form of transnational digital identity (Kud, 2021b). Consequently, it is not difficult to imagine the harm that could be caused by certain failures in the storage software. Interestingly, such harm would affect a large number of people associated with blockchain technology not only because of investments in cryptocurrencies, but, as noted above, also in the case of running a business, insuring lives or propelling governmental services.

Moving on to intangible consequences, the harms would be:

- firstly, damage to the platform itself and its developers;
- secondly, sufficiently sensitive personal data about individuals who have collaborated in any way with the platform may be made freely available;
- thirdly, the information origins will have a negative impact on the further development of technology, such as data storage, as the blockchain platform, considered one of the most secure and unattainable to capture, has failed to live up to sufficiently high expectations.

In such a case, it is not simply worth considering and developing principles and a mechanism for the institution of liability which would include the object, subject, content and measures of such liability. It is our personal belief that an effective mechanism of liability and possible measures of restitution (restoration of infringed property rights - bringing them back to the state that existed before the act causing the damage was committed) should be developed.

However, before starting to examine and analyse these issues, one should first turn to the classical sources of administrative law in order to understand how responsibility works in the administrative law dimension. The need to refer to administrative law can be explained as follows. Administrative responsibility is one of the outstanding institutions of administrative law, an important means of protecting public order, which has all the attributes of legal responsibility. The special role of administrative responsibility is due to the fact that public relations regulated by this institute are different in their scope and content. This type of

responsibility is implemented both in substantive norms (providing for specific rights and obligations), and in procedural ones. In contrast to criminal-law responsibility, which arises in an exhaustive list of quite specific legal relations, and civil-law responsibility, which usually takes place in the case of compensation for damage caused, administrative-law responsibility covers almost all types of social relations and provides for appropriate measures of responsibility for specific violation in a particular area. In our opinion, the introduction of administrative responsibility is one of the first elements of public response to the emergence of new offences, and, therefore, more adaptive to the emergence of new social relations.

It should be noted, that creation of administrative law framework for digital governmental platforms is now a reality. For example, Ukraine recently introduced particular regulations for the functioning of governmental portal "Diia" (Cabinet of Ministers of Ukraine, 2021). However, this regulation is not considering the use of blockchain technology in the context of governmental services.

In considering the mechanism of administrative responsibility, let us start with such an important component as a subject of administrative responsibility. Let us first provide a definition of the subject of administrative law and pay attention to its main characteristics.

Traditionally, the subject of administrative law is an individual or legal entity. Subject of administrative law is a particular participant (public authorities or local self-government bodies, individuals and legal entities) of administrative law relations, into which he enters either by will (by own discretion), or by virtue of a duty imposed by an administrative law rule. The main feature of subjects of administrative law, for the purposes of this paper, will be considered as possession, in accordance with the prescriptions of administrative law regulations, of the ability to have and exercise rights and legal duties in the field of public administration, that is, possession of administrative law personality. The latter, in turn, consists of administrative legal status and capacity. Sometimes, a separate component of legal capacity is considered as tortious capacity, but we will consider it as a "sub-component" to the capacity.

Administrative legal status is the ability of a subject of administrative law to have rights and duties. In the case of citizens, it arises with birth and terminates with death. As for legal entities, it usually begins at the moment of state registration, and ends at the moment of liquidation (Zheltobriukh, 2020).

Administrative capacity is the ability of a subject of administrative law to exercise through his/her actions the rights granted to him and perform the duties imposed on him/her (Luchenko, 2013).

Administrative capacity consists of such elements as an individual's ability to:

- exercise the rights belonging to him/her independently;
- exercise the established competence and adopt legal acts of administration;
- apply measures of administrative coercion;
- recognise, guarantee and protect the rights and freedoms of citizens;
- bear responsibility for damage caused to citizens, a state body or a legal entity (administrative tortious capacity),

In other words, it is clear that legal capacity is the ability of an individual to understand and correctly assess their actions of legal significance, manage them and guarantee the legality of their application (Lysenko, 2020; Verkhovna Rada of Ukraine, 2021).

At the same time, the exercise of legal capacity of both natural and legal persons is inextricably linked to the expression of the will of the individual. That is why administrative legal capacity is also referred to as a potential opportunity of a subject to exercise the rights and freedoms established for him/her, as well as to perform certain duties and exercise the powers granted to him/her (Luchenko, 2017). From a practical point of view, legal capacity of a subject of administrative law creates only prerequisites for the implementation of his legal status.

It should also be noted the modifications over time manifestations of administrative legal personality (Luchenko, 2017). This indicates the variability of these categories and applies to both individuals and legal entities.

Events in one person's life such as birth, reaching the age at which means (a) application for general secondary school, (b) obtaining a passport, (c) for males, there is a constitutional obligation to serve in the army, lead to a change of administrative and legal status.

In turn, the legal entity also changes its administrative and legal status over time. Events, such as (a) establishment of a newly created legal entity, (b) obtaining a licence for new activities, (c) opening of branches and representative offices in other cities, lead to changes in the administrative and legal status.

After analysing of the main characteristics of the subject of administrative law responsibility, we must make a rather important caveat. If we choose to grant blockchain-based platforms the legal status of a subject in such relations, one could argue that we are equating the rights and obligations of a platform operating on the basis of certain algorithms with a carrier of biological intelligence. However, it is quite clear that the above-mentioned facts such as age, article, and citizenship cannot influence the activity of the platform, which by its nature simply does not have such qualities. In such a case, if a conditional legislator chooses the role of an entity, it should work quite hard on the special status of such a platform and provide for all the possible features of such a new player. For example, from what point the platform would be considered operational, what would be the types of platforms and the criteria for distinguishing them, in which cases the platform should be recognised as incapacitated. This may sound somewhat fantastical now, but as scientists we must consider all potential

scenarios. It should also be noted, in the context of the issue of liability of public decentralised platforms, the principle enshrined in Article 12 of the UN Convention on the Use of Electronic Communications in International Contracts, according to which the person (natural or legal) on whose behalf a computer (in our case, blockchain-based technology) has been programmed must ultimately be responsible for any message generated by the machine, can be applied (United Nations, 2005).

If public decentralised platforms are granted object status (which is more likely), the situation with possible questions becomes more obvious and clear. For example, of the above, we will still be interested in the questions: from what point the platform would be considered operational, in which cases the platform should be recognised as incapacitated, but already through a completely different prism – let us say, as property. But again, with a rather specific status to be taken into account, when regulating the treatment of such an object. Moreover, if we recognise blockchain-based platforms as an object, we will also face new questions: where will be the boundary between the activity of the subject and the object, in case of a program failure or virus attack; to which group of objects will such technology belong and what measures of liability can be introduced for violations related, for example, to interference with the operation of such a platform.

Let us consider the potential challenges that may arise from the introduction and further legal liability of public decentralised platforms. The following list of issues can be highlighted in such ways:

1. The possible legal status of such platforms.

First of all, it should be understood and established whether such public decentralised platforms can be regarded as a separate entity in their own right, or whether they would still be more of an operational entity with a special status. This status will primarily determine whether these blockchain-based platforms will be responsible for failures in their system and whether they will be regarded as an independent relational actor.

2. The need for a supervisory body to oversee the operations flow on the platforms.

This is perhaps the most controversial issue, as one of the most attractive attributes of blockchain-based technologies is that they are decentralised. This in turn means that no one has control over them, and making a market analogy, blockchain is like a free market. A free market indeed. So, rightly the question arises, whether it is necessary to create a "controlling" body for the activity on public decentralised platforms at all. For our part, we would like to point out that there is no direct need, in our opinion. A free platform must remain free. However, we are not against the creation of a regulating body (namely, regulating, not controlling), which, for example, would include representatives of different states in order to protect the system from possible interference and falsification. In such a case, care should be taken that this body does not start to create real legislation and control what happens on the platform, because then it would lose its uniqueness and value. That is why, we believed, it would be in the interest of the whole society to actually ensure that the blockchain remains free; the blockchain is not harmed by the authority (if it is created) or the users of the blockchain.

3. Responsible persons for blockchain failures.

And while, as noted earlier, society's current vision and approach is based on blockchain technology being immune to any problems, both internal and external, from a scientific and practical standpoint we must be prepared for all possible scenarios. Consequently, the downside of decentralised platforms is that there is no one responsible in the event of any failure in its system. Indeed, who can be responsible for a fully independent data storage system anyway? Who contributed the problematic data? Can the one who created the platform in the first place? The question remains open and that is why we put it in the Discussion section.

4. Liability mechanism for blockchain platform working issues.

This could be considered a sub-item to the third point, but it is still worth special attention. If difficulties arise even at the stage of identifying those responsible, how was the entire liability mechanism taken care of? What would be regarded as sufficient evidence in such cases and how would such evidence be obtained in the first place? We assume that evidence could be certain "excerpts" from blockchain systems, or ordinary screenshots from the same platforms from which it is seen that the system is not working/intruded/data has disappeared or is untrue.

Conclusions

Thus, after analysing the phenomenon of public decentralised platforms based on blockchain technology, it can be concluded that this field of information technology has long ceased to be a theoretical concept. However, despite its intensive development and direct impact on people's livelihoods, this area of scientific and technical knowledge is still insufficiently, and in some issues not yet regulated by legal norms at all. Indeed, given that there remains a global problem of insufficient regulation of the design, operation and activity, integration into other systems and control of the application of blockchain technology in public decentralised platforms, potential risks, should they arise in practice, could cause irreparable damage to public sphere relations. Only some states are beginning to regulate particular of the legal issues connected with the use of blockchain technology in decentralised public platforms in some way, but we believe the issue at hand is not confined to a particular national legal system. The development of principles and standards for the application of blockchain technology in decentralised platforms performing public functions, especially at the global level, which must necessarily balance the interests of the state and individuals, is necessary to ensure the sustainable development of these technologies and the security of humanity.

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Conflicts of Interests

The author declares that there is no conflict of interests.

References

Cabinet of Ministers of Ukraine. (2021, February 03). *Postanova "Pro Natsionalnu veb-platformu tsentriv nadannia administratyvnykh posluh" [Resolution "On the National Web Platform of Administrative Service Centers"].* https://zakon.rada.gov.ua/laws/show/72-2021-%D0%BF#Text [in Ukrainian]

Castillo, M. (2019, April 17). 50 krupnyh kompanij, kotorye ispolzujut blokchejn. Spisok Forbes [50 large companies, which uses blockchain. Forbes list]. *Forbes*. https://www.forbes.ru/biznes/374921-50-krupnyh-kompaniy-kotorye-ispolzuyut-blokcheyn-spisok-forbes [in Russian]

Drobotya, Ya. A. (2021) Didzhytalizatsiya platizhnykh system [Digitalization of payment systems]. *Contemporary problems of accounting, analyses, auditing and taxation of business entities: Theoretical, practical and educational aspects* (pp. 330-334). NMetAU. http://dspace.pdaa.edu.ua:8080/handle/123456789/10564 [in Ukrainian]

Kraus, N. M., Holoborodko, O. P., & Kraus, K. M. (2018). Tsyfrova ekonomika: trendy ta perspektyvy avanhardnoho kharakteru rozvytku [Digital economy: Trends and prospects of the avant-garde change of development]. *Efektyvna ekonomika – Efficient Economy, 1*. http://www.economy.nayka.com.ua/pdf/1_2018/8.pdf [in Ukrainian]

Kud, A. A. (2021a, November 4). Decentralized information platforms in public governance: Reconstruction of the modern democracy or comfort blinding? *International Journal of Public Administration*. https://doi.org/10.1080/01900692.2021.1993905

Kud, A. A. (2021b). Detsentralizovani informatsiini platformy yak instrument modernizatsii publichnoho upravlinnia [Decentralized information platforms as a tool of public government modernization]. *Visnyk pisliadyplomnoi osvity – Bulletin of Postgraduate Education, 15*(44), 233-274. https://doi.org/10.32405/2522-9931-2021-15(44)-233-274 [in Ukrainian]

Kud, A. A. (2019). Substantiation of the term "digital asset": Economic and legal aspects. *International Journal of Education and Science, 2*(1), 41–52. https://doi.org/10.26697/ijes.2019.1.06

Kud, A. A., Mashchenko, M. A., & Pypenko, I. S. (2020). *Predicting the impact of digital assets on socioeconomic development of an enterprise.* KRPOCH. https://doi.org/10.26697/9786177089116.2020

Kud, A., & Pypenko, I. S. (2018). Social and economic foundation of the implementation of blockchain-based systems of digital assets in developing countries. *International Journal of Education and Science, 1*(3-4), 30. https://doi.org/10.26697/ijes.2018.3-4.30

Luchenko, D. V. (2017). *Instytut oskarzhennia v administratyvnomu pravi [The appeal institute in administrative law]* [Doctoral dissertation, Yaroslav Mudryi National Law University]. DSpace. https://dspace.nlu.edu.ua/handle/123456789/15392 [in Ukrainian]

Luchenko, D. (2013). Pro osnovni oznaky administratyvno-pravovoho sporu [About main features of administrative legal conflict]. *Visnyk Natsionalnoi akademii pravovykh nauk Ukrainy – Bulletin of the National Academy of Legal Sciences of Ukraine, 2*(73), 148-156. https://dspace.nlu.edu.ua/bitstream/123456789/4265/1/Luchenko_148.pdf [in Ukrainian]

Lyashenko, V. I., & Vyshnevsky, O. S. (2018). *Tsyfrova modernizatsiia ekonomiky Ukrainy yak mozhlyvist proryvnoho rozvytku [Digital modernization of Ukraine's economy as an opportunity for breakthrough development].* Instytut ekonomiky promyslovosti NAN Ukrainy. https://iie.org.ua/wp-content/uploads/monografiyi/2017/Lyashenko_Vishnevsky_2018.pdf [in Ukrainian]

Lysenko, D. A. (2020). Predyktyvne pravosuddia v administratyvnomu sudochynstvi Ukrainy [Predictive justice in the administrative justice of Ukraine]. *Yurydychnyi naukovyi elektronnyi zhurnal – Legal Scientific and Electronic Journal, 3*, 249-253. https://doi.org/10.32782/2524-0374/2020-3/60 [in Ukrainian]

Pypenko, I. S. (2019). Digital product: The essence of the concept and scopes. *International Journal of Education and Science, 2*(4), 56. https://doi.org/10.26697/ijes.2019.4.41

Pypenko, I. S., & Melnyk, Yu. B. (2020). Creating a business ecosystem based on blockchain technology. *International Journal of Education and Science, 3*(4), 53. https://doi.org/10.26697/ijes.2020.4.26

Pypenko, I. S., & Melnyk, Yu. B. (2021). Principles of digitalisation of the state economy. *International Journal of Education and Science*, *4*(1), 42–50. https://doi.org/10.26697/ijes.2021.1.5

Rachinger, M., Rauter, R., Müller, C., Vorraber, W., & Schirgi, E. (2019). Digitalization and its influence on business model innovation. *Journal of Manufacturing Technology Management*, *30*(8), 1143–1160. https://doi.org/10.1108/JMTM-01-2018-0020

United Nations. (2005, November 23). United Nations Convention on the use of electronic communications in international contracts. https://www.acerislaw.com/wp-content/uploads/2021/08/2005-United-Nations-Convention-of-the-Use-of-Electronic-Communications-in-International-Contracts.pdf

Verkhovna Rada of Ukraine. (2021, October 01). *Kodeks Ukrainy pro administratyvni pravoporushennia [Code of Ukraine on Administrative Offenses]*. https://zakon.rada.gov.ua/laws/show/80731-10#Text [in Ukrainian]

Zheltobriukh, I. L. (2020). *Administratyvno-protsesualnyi status storin v administratyvnomu sudochynstvi: teoretyko-pravovi pytannia [Administrative-procedural status of the parties in administrative proceedings: theoretical and legal issues]*. Helvetica [in Ukrainian]

Анотація

Вступ: *Взаємодія технічного прогресу та соціальних явищ є одним із основних факторів розвитку людства. Ця стаття присвячена одній з таких технологій, що впливає на світ не тільки в технічному, а й у соціальному плані. Зокрема, стаття присвячена питанню можливих правових проблем, які можуть виникнути під час використання публічних децентралізованих платформ на основі технології блокчейн, а саме відповідальності, що виникає при функціонуванні таких платформ у рамках адміністративного права.*

Мета: *Аналіз потенційної правової бази, що стосується відносин відповідальності під час створення та функціонування децентралізованих публічних платформ.*

Матеріали і Методи: *Для проведення цього дослідження було використано такі методи: діалектичний, системний, історичний та логічний. Щодо конкретних методів правового дослідження, то в основному можна відзначити формально-юридичний та порівняльно-правовий методи.*

Результати: *Вивчено поточний розвиток операцій із технологією блокчейн та ризики, пов'язані з її впровадженням. Встановлено, що хоч ціннісний аспект технології блокчейн добре вивчений, роль технології блокчейн як нового інструменту впливу на баланс існуючих суспільних та індивідуальних цінностей все ще не до кінця зрозуміла. Досліджено основні поняття відповідальності публічних децентралізованих платформ, заснованих на технології блокчейн. Це було зроблено в контексті адміністративного права і пояснено, чому саме адміністративна відповідальність є найбільш застосовною.*

Висновки: *Таким чином, був створений структурований список основних питань, пов'язаних з відповідальністю публічних децентралізованих платформ, заснованих на технології блокчейн.*

Ключові слова: *блокчейн, відповідальність, адміністративно-правове регулювання, публічні децентралізовані платформи.*

Аннотация

Введение: *Взаимодействие технического прогресса и социальных явлений является одним из основных факторов развития человечества. Данная статья посвящена одной из таких технологий, которая оказывает влияние на мир не только в техническом, но и в социальном плане. В частности, статья посвящена вопросу возможных правовых проблем, которые могут возникнуть при использовании публичных децентрализованных платформ на основе технологии блокчейн, а именно ответственности, возникающей при функционировании таких платформ в рамках административного права.*

Цель: *Анализ потенциальной правовой базы, касающейся отношений ответственности при создании и функционировании децентрализованных публичных платформ.*

Материалы и Методы: *Для проведения данного исследования были использованы такие методы: диалектический, системный, исторический и логический. Что касается конкретных методов правового исследования, то в основном можно отметить формально-юридический и сравнительно-правовой методы.*

Результаты: *Изучено текущее развитие операций с технологией блокчейн и риски, связанные с ее внедрением. Установлено, что хотя ценностный аспект технологии блокчейн хорошо изучен, роль технологии блокчейн как нового инструмента влияния на баланс существующих общественных и индивидуальных ценностей все еще не до конца понятна. Исследованы основные понятия ответственности публичных децентрализованных платформ, основанных на технологии блокчейн. Это было сделано в контексте административного права и объяснено, почему именно административная ответственность является наиболее применимой.*

Выводы: *Таким образом, был создан структурированный список основных вопросов, связанных с ответственностью публичных децентрализованных платформ, основанных на технологии блокчейн.*

Ключевые слова: *блокчейн, ответственность, административно-правовое регулирование, публичные децентрализованные платформы.*