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Blockchain as a Tool for the Formation of the Modern Creative Economy Industry: Processes, Strategies and Prospects of Application

Abstract: *Introduction.* The relevance of the research topic is due to the problems caused by the globalisation of society. The modern creative industry is going through a new digitalisation stage, transforming its content, organisational and stylistic components. *Purpose and methods.* The purpose of the article is to analyse the problems and prospects of using blockchain technology in the creative industry of Ukraine. The methodological basis of the study is a systemic-functional, dynamic, comprehensive principle that includes methods of analysis and synthesis, modelling, historical and logical methods, and statistical analysis. *Results.* The article reveals the specifics of managing socio-cultural projects using blockchain and identifies the positive and negative results of its application. The scientific novelty of the research results is to reveal the socio-cultural essence of managing socio-cultural projects by using blockchain, identifying its positive features, negative consequences and threats to the artist and the user. *Conclusions.* The author analyses the legislative framework for the use of digital tools in the creative industry, in particular, the Law of Ukraine ‘On Culture’, the Law of Ukraine ‘On Virtual Assets’, the Law of Ukraine ‘On Amendments to the Tax Code of Ukraine and Other Legislative Acts of Ukraine Regarding the Regulation of the Turnover of Virtual Assets in Ukraine’, and assesses the legal regulation of blockchain technologies in the field of socio-cultural activities. The author assesses the level of blockchain development in the creative industry of Ukraine in the context of the war, and considers financial aspects, including the urgent need for investment and state support for blockchain-related projects.

Keywords: blockchain, creative industry, blockchain management, artist management, blockchain project, cryptocurrency.

Original Research Article

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1. Introduction

Statement of the problem. The dynamic digitalisation of all spheres of life characterises modern society. Digital transformation is seen as a process of gradual business transformation by revising models, operations, products, marketing approach, goals, etc., through adopting digital technologies (Law on Virtual Assets). In the context of rapid technological advancement and the growing importance of digital transformation, the potential of blockchain technology for modernising economic processes and management activities is being rethought.

The blockchain's relevance is also because modern business operations require security and confidentiality guarantees (Stolterman & Fors, 2004, p. 689). This particular technology is currently a promising prospect for the financial and management industries. The use of cryptocurrencies as a payment instrument is growing in a number of industries, including finance, government, manufacturing, and retail, where security, scale, and efficiency of the management system must be combined. Although blockchain technology is currently seen primarily as a platform for cryptocurrencies, its use can be expanded to include social and cultural activities.

The application of blockchain in the creative economy is still being formed. The terms 'creative economy' and 'creative economy industry' are being actively consolidated in the subject area of socio-cultural activity (Butnik-Siverskyi, 2023, pp. 24–25) and are of substantive importance for the formation of the digital economy in the creative economy industry. Thus, the Law of Ukraine 'On Culture' states (subpara. 52, para. 1, Art. 1): 'Creative industries are types of economic activity aimed at creating added value and jobs through cultural (artistic) and/or creative expression', and further (clause 53, paragraph 1, Article 1): 'Creative product – goods and services created/provided as a result of cultural (artistic) and/or creative expression and having high added value' (Verkhovna Rada of Ukraine, 2010).

However, in Ukraine, unfortunately, there are a number of obstacles that may affect the socio-cultural sphere's readiness to implement this technology. Therefore, the creative industry lags far behind the above-mentioned industries in the context of blockchain involvement in the organisation of innovative practices, as well as scientific understanding of the possibility of integrating and using cryptocurrency, which necessitates the implementation of relevant theoretical research and determines the relevance of the topic of this article.

State study of the problem. Significant theoretical and practical aspects of the introduction of blockchain technology in all areas of activity are the basis for the research of many domestic scholars (M. Dyachuk, M. Boiko, T. Zava-da, A. Karnaushenko, O. Bolonenkova, V. Mazur, O. Ivankevych, A. Moskalev,

E. Popova, S. Ohynok, K. Yanko) and foreign researchers (K. Panetta, E. Stolterman, A. Croon Fors, J. Symcox, R. Takahashi).

In particular, T. Zavada (2022), K. Yarovyi, O. Martynenko and A. Shnurko (2022), K. Nekit (2019), V. Riadinska (2020) see cryptocurrency as an independent socio-economic phenomenon that requires clarification of the mechanism of state regulation and legal recognition. S. Ohinok and K. Yanko (2023), A. Moskalov and E. Popova (2018), V. Mazur and O. Ivankevych (2015), M. Boiko (2021), P. Rubanov (2019), M. Savchenko, V. Korolenko and O. Poroshyna (2019) point to the important role of blockchain in the formation of international economic relations and its spread in global markets. The review of publications shows the relevance of the problem of blockchain implementation in all spheres of life. It raises the issue of further prospects for the development of blockchain in the field of socio-cultural activity in Ukraine. The problem of determining the prospects was raised in the scientific research of L. Chyzhevska (2022), A. Ovcharenko (2019). S. Poliakh (2023), A. Karnaushenko and O. Bolonenkova (2023), M. Diachuk (2018), but these publications did not pay attention to the socio-cultural sphere of application.

Thus, in the national literature, the issue of conceptualisation of the very concept of 'blockchain' and identification of its role in the formation of global world markets has recently become relevant. At the same time, the issue of current trends in implementing blockchain in socio-cultural activities remains outside their attention.

Unresolved issues. The significance of cryptocurrency for the creative industry is considered superficially, without a proper theoretical analysis of the concepts. As a result, in the current field of domestic socio-cultural research, the issue of the role of blockchain in shaping contemporary socio-cultural activity and determining the prospects for the use of cryptocurrencies has not had a full theoretical articulation. Accordingly, there is a need to improve the existing scientific and methodological approaches to conceptualising and determining the prospects for using blockchain in socio-cultural activities.

2. Purpose and methods

The purpose and research tasks. The article aims to identify the problems and prospects of using blockchain technology in the creative industry of Ukraine.

In accordance with this goal, the following tasks should be solved.

– to conceptualise the concepts of 'blockchain', 'cryptocurrency' and 'creative economy';

- to highlight the role and importance of blockchain technology in the formation of the creative economy of Ukraine;
- to analyse the socio-cultural reflections and contradictions of globalisation that determine the development of blockchain in Ukraine and actualise its implementation in the creative economy;
- to reveal the essence of digital governance, its subjectivity and identify the problems that arise with the introduction of blockchain;
- to identify the social consequences and metaphysical threats of the digitalisation of methods of managing socio-cultural activities.

Methodology and research methods. The methodological basis of the study is, first of all, a comprehensive principle that includes methods of analysis and synthesis, induction and deduction, modelling, historical and logical methods, and statistical analysis methods. The interdisciplinary nature of the study led to the use of the analytical method when considering blockchain as a system management tool within specific scientific disciplines (management, sociology, cultural studies, and international political economy). Comparative and typological methods were actively used to identify similarities and differences between blockchain practices in various fields of activity, as well as the method of expert assessments, which allowed for the prediction of the further course of digitalisation of creative industry management.

Information base of the study. The study is based on theoretical and empirical information obtained from reliable sources. As theoretical data, the results of previous studies conducted by the most prominent scholars in the fields of sociology, economic theory, political science, cultural studies, and global governance were used. The materials of legislative documents, in particular, the Law on Culture, the Law on Virtual Assets, the Law on Amendments to the Tax Code of Ukraine and Other Legislative Acts of Ukraine on Regulation of the Turnover of Virtual Assets in Ukraine, were used, based on the results of which the author analysed the legal regulation of the introduction of blockchain technology in the socio-cultural sphere. The empirical data on the subject matter of the study are based on the authors' observations and expert opinions of specialists in this field. The chronological boundaries of the study cover the last decade, with a small forecast for the next one.

3. Results and discussion

3.1. Current realities of the creative economy industry

The restrictions caused by the pandemic and the full-scale invasion by the Russian Federation have significantly undermined Ukraine's economic balance and stability. As a result, these circumstances have led to a slowdown in produc-

tion rates and capacity, a decrease in investment, and the emergence of numerous economic and social risks. At the same time, today's realities have led to an increased interest in digital technologies, virtual reality and the transformation of management and production activities.

The definition of the 'creative economy industry', which reproduces a set of economic creative activities with high potential for profitability and job creation, has become of substantive importance for the development of the economy.

According to the Creative Economy Development Council, blockchain is expected to play an essential role in shaping the creative economy (Ukrainskyi tsentr kulturnykh doslidzhen, 2021). After all, it can protect intellectual property rights and legal regulation by obtaining digital certificates, user identification, and decentralising the governance system.

The development of the creative economy creates new opportunities for digital human rights. After all, the introduction of innovations provides greater opportunities for the realisation of the creative potential of artists, and creative activity is turning into a more inclusive process of cultural creation. Digital human rights encompass a wide range of fundamental freedoms, including the right to access information, privacy, personal data security, freedom of expression, and the principles of equality and non-discrimination. The digital transformation of the creative economy has opened up new opportunities for artists and consumers, while providing competitive advantages to innovative businesses.

Summarising the above, it should be noted that the process of formation of the digital economy in the context of the creative industry of Ukraine, from the point of view of intellectual property, is progressive and demonstrates stable development dynamics.

Given the crucial socio-cultural role of creative work, the development of strategies to support creative professionals and entrepreneurial initiatives, further digitalisation of the creative economy (including blockchain implementation) should be based on a number of fundamental principles that can be taken into account in the decision-making process at the state level.

Another hypothesis is that blockchain technology can significantly improve the system of payment for the consumption of creative services or the use of relevant content – the purchase of artistic goods using cryptocurrency can eliminate the involvement of intermediaries in this process. As a result, artists can earn more income.

To better understand the essence of managing the creative process through blockchain technology, it is worth exploring the specifics of its functioning in the creative industry in more detail.

3.2. Blockchain system as a digital governance tool in the creative industry

A blockchain is a system for transmitting transactions encrypted over the Internet using IOT, but without a central management entity (by keeping independent ledgers), thus providing transparency in the data management system. Blockchain technology guarantees a secure transaction environment due to its decentralised nature (Bezverkhyi & Kuvshynova, 2018, pp. 29–38). This system's peculiarity is that the so-called 'third party' control is replaced by the blockchain, eliminating the risk of information theft and fraud. This technological process operates in a decentralised manner, as no person can create and verify transactions (Litoshenko, 2017, pp. 77–79). This feature of blockchain technology should accelerate the gradual transformation of all public services into convenient online services, or a phenomenon that distinguishes between economic, political and cultural components.

Blockchain is created through electronic payments (mining) and is a computer-generated code. Each block must meet specific criteria for correctness and complexity of creation, for which a hashing algorithm is used.

Blockchain is currently the most widespread in the financial industry, and cryptocurrencies best illustrate its functionality. Miners mine new coins and conduct all cryptocurrency transactions simultaneously. The difference between cryptocurrencies and conventional currencies is the lack of control by a specialised institution that oversees the issuance. The more popular a cryptocurrency becomes, the more memory it needs to store.

Ethereum, one of several blockchain platforms, is the basis for many of the early applications of blockchain in the creative economy. It enables using smart contracts and initial coin offerings (ICO) on its network. Smart contracts allow for the automatic payment of cryptocurrency called Ether once the conditions specified in the agreement are met. ICO make it possible to create new coins on top of the Ethereum blockchain and facilitates the financing of new projects. The combination of smart contracts and ICO enables the generalised use of blockchain, but it is not without risk. Research firm Gartner has outlined the vulnerabilities of smart contracts (Panetta, 2017), and regulators worldwide have warned about the dangers to ICO investors (Detrixhe, 2017).

In the creative economy, blockchain can protect certain royalty information, potentially alleviating concerns that artists receive much lower remuneration in today's digital economy.

Improved transaction terms of the blockchain's use for smart contracts have created a new way of transacting. Smart contracts help artists manage digital

rights and distribute shares among participants, allowing them to pay creators more openly and transparently.

PeerTracks, Ujo Music and Mycelia offer platforms for artists to upload their tracks, control licensing options, set up distribution and receive immediate royalty payments for the distribution of their creative content. A ‘smart contract’ is concluded for each artistic work with the appropriate copyright registration, and revenue is distributed according to this contract to create a fair and sustainable music ecosystem (Takahashi, 2017).

Some corporations are investing in various types of cryptocurrencies and related projects, expecting to make a significant profit over time, as these technologies are relatively new and their potential is impressive. For example, since September 2021, Google has invested about \$1.5 billion in developing crypto startups; Samsung has invested \$979.2 million in the same period (Symcox, 2022).

The peculiarity of this technology is that it is easy to determine how the income was distributed among those who own the rights to the creative work. In particular, Ascribe.io offers secure property attribution by providing each creative product with a unique cryptographic identifier that the blockchain verifies. This means the owner can be traced and the content can be safely distributed (Smahlo, 2024).

Finally, the blockchain helps create a reputation system, which is important to ensure that hostile agents do not attempt to manipulate the system. Blockchain addresses are unique, so creating an off-chain platform to evaluate users while identifying and rooting out potential bad actors is possible.

Augur is one such organisation that is experimenting with reputation tokens. More flexible pricing mechanisms, Blockchain can also provide creators with the ability to conduct dynamic pricing and micrometrics, potentially offering greater control over content. Dynamic pricing could give artists the freedom to adjust the purchase prices of their works, in theory, whenever they want. Blockchain has eliminated intermediaries, so artists, as opposed to managers and promoters, can have a greater say in how their work is valued.

Another positive aspect of blockchain in the creative industry is the freedom of pricing that micrometrics has brought. This disruptive innovation redefines the smallest consumable unit of creative work. While digital music stores allow consumers to buy individual songs, blockchain can make fragments of creative work available for a price; for example, a few seconds of a song to be used in a film trailer.

Services such as Streamium allow artists to control content distribution, as the blockchain records the algorithm of the creative product, its constituent elements and the components of the creative work.

There are also drawbacks in introducing blockchain technology into the creative economy (Graham, 2017). For example, Stem Disintermedia (n.d.), a company that helps music artists distribute royalties, decided not to use blockchain after realising that artists found it too tedious to upload all the metadata required for their work. In addition, many stakeholders were not satisfied with the level of transparency in royalty distribution. Others felt that traditional labels and publishers were important for promoting and distributing content (Dredge, 2017).

Blockchain requires knowledge of alphanumeric code and cryptography. To overcome this problem, user interfaces (UI), similar to AR and VR applications, should have a different interface that is more familiar to the average user.

For example, Apple's App Store boasts over 300,000 developers who have launched over 2 million apps (Aru, 2017). BLOCKv is one example of creating a user-friendly UI for the blockchain, but these initiatives should not happen in isolation.

3.3. Prospects for blockchain technology in the creative industry

Given that blockchain is still at the initial stage of its development, it is difficult to determine the algorithm for the development of creative crypto-management and crypto-production. Nevertheless, based on the results of the review of the above realities, several hypotheses can be put forward:

First. One of the possible scenarios for the development of blockchain technology is that blockchain is likely to create more efficient schemes for monetising creative work. On the positive side, this outcome of blockchain technology could provide greater opportunities for the public to access artists' work while ensuring that they are fairly remunerated. After all, blockchain promotes freer distribution and creates competitive conditions for promoting creative content.

Second. The creation of 'smart contracts' in the creative industry will allow artists to manage digital rights, fairly distribute income, and determine the conditions for promoting the creative content they create.

Third. Creating analytical reports on user demand for creative content. Using a blockchain system, it will be possible to see information about those who have viewed creative content and to what extent. The form of such reporting can be a digital ledger generated in the blockchain.

Fourth. Promote efficient, dynamic pricing based on blockchain analysis of supply and demand. In addition, workers in the creative industries will be able to control prices and set them independently, without using the services of intermediaries.

Fifth. There is no longer a need to buy unnecessary parts of creative material ('micrometrics' or 'micromonetisation'). Digital music stores such as iTunes allow consumers to purchase individual songs. With the help of blockchain, fragments of creative works can be made for a certain price, for example, a few seconds of a song for use in a film trailer.

Sixth. Reputation building – blockchain can help link reputations to specific 'addresses' on the blockchain, allowing producers and consumers of creative work to verify each other. This can help increase cooperation and identify unscrupulous producers or consumers. Appropriately protecting digital human rights is essential for the digitalisation of the creative economy.

3.4. Current trends in blockchain implementation in the creative industry of Ukraine

In the context of the current realities of Ukrainian society, constant attempts of cyberattacks by the aggressor country, the introduction of blockchain technology is a critical issue, the positive outcome of which can guarantee the relative security of transactions, royalty payments to artists, etc. Due to the above features of decentralisation, data immutability, transparency, and cryptographic protection, blockchain provides advantages. As a result, in September 2022, Ukraine became one of the top three countries in terms of cryptocurrency use (Fedorova, 2022).

The interest in blockchain opportunities is also reflected in Ukraine's legislative framework. In particular, the Law on Virtual Assets (adopted in 2022) defines the rules for taxation of cryptocurrency transactions (Verkhovna Rada of Ukraine, 2022). According to its provisions, a mandatory legal act is to establish requirements for entities operating with cryptocurrencies, particularly providers of virtual asset exchange and storage services, as well as establishing customer identification and reporting procedures. These restrictions affect tax authorities' transparency in this area, leading to the legalisation of crime proceeds and the prevention of terrorist financing.

At the same time, draft law 10225-1 (Verkhovna Rada of Ukraine, 2023) was developed to simplify the conditions for regulating income taxation from transactions with virtual assets, creating a solid basis for its post-war reconstruction.

In 2023, 2 draft laws, No. 6447 and No. 6576, were adopted, which regulate the provision of digital services, the circulation of digital content and digital things. Adopting the draft laws allows the integration of the virtual asset industry into Ukraine's traditional economy. Implementing legal norms will stimulate the development of the digital economy and allow the new sector of the econo-

my to attract additional funds to the country (Ministry of Digital Transformation of Ukraine, 2023).

As a result of the review of the legal and regulatory framework, it is worth noting that the government is encouraging the use of blockchain technology in Ukraine.

Ukraine has strengthened its cooperation with the European Union on cybersecurity issues, resulting in an agreement with the European Union Agency for Cybersecurity (ENISA) (2023) to build capacity, share best practices, and raise situational awareness.

Ukrainian companies Everstake, Ambisafe, and Hacken already have experience developing content using blockchain solutions.

However, there is a need for additional investment in technological developments, given that the blockchain system is only at the first stages of development in socio-cultural activities.

The high initial costs of developing and implementing blockchain solutions can be a significant obstacle.

Government programmes are aimed at introducing blockchain technology to the Ukrainian public sector. The government's Diia programme has a series of public procurements for developing blockchain solutions to increase transparency and efficiency in public administration (Tkach, 2024, pp. 102–104). There may also be opportunities for partnerships with international organisations and other donors to fund blockchain projects in the public sector.

Global Ledger, a Ukrainian startup that develops products for tracking cryptocurrency transactions and assessing the risks of working with clients, has studied the potential for taxation of the cryptocurrency market in Ukraine (Ministry of Digital Transformation of Ukraine, 2024). According to the study, if crypto assets are legalised in Ukraine, taxes from the provision of services in the crypto industry in 2021-2024 could amount to UAH 8.34 billion for the Ukrainian audience and up to UAH 6.53 billion from personal income taxation. Legalisation of the cryptocurrency market could bring Ukraine up to UAH 15 billion in budget revenues (Petrovskyi, 2024). Against the backdrop of the next bitcoin growth cycle, one of the issues discussed at the forum 'Prospects for Domestic Investment' (Kyiv, 12 December 2024) was the legalisation of cryptocurrency in early 2025, which requires amendments to the Tax and Civil Codes (*EP zibrala*, 2024).

As a result of the review of blockchain technology in Ukraine, we highlight the positive aspects of its functioning in the field of socio-cultural activity:

Each transaction is private, given that it is encrypted and displayed as a special set of characters. Decryption of a particular transaction is possible only with

a private key, a unique combination of letters and numbers known only to the user. Therefore, it is impossible to log in on behalf of someone else and make a transaction.

The reliability of the data is because on a particular blockchain platform, each participant in the payment process can see any financial transactions (in the form of an encrypted code. Accordingly, it will be impossible to change them due to the existing chain principle.

Lastly, low transaction costs have been identified. Blockchain technology simplifies the intermediation process and significantly reduces transaction costs compared to the fees charged by banks or other financial institutions that store physical money. For example, to create a new block with transactions in the blockchain, users must pay a fee to the person who created the block – the miner.

4. Conclusions

The use of blockchain technology requires an increase in the level of digital financial literacy of artists, which requires the skills of finding and using information and critical thinking. The prospects of blockchain in the creative industry cannot be overestimated, as it is a management tool that provides user security, process efficiency, transparency and decentralisation, stimulating innovation and changing traditional business models. The use of the blockchain concept in the creative industry is at an early stage of development. However, it is based on understanding the digital environment and cryptographic principles.

Ukraine's regulatory and legislative framework (Law on Culture, Law on Virtual Assets) creates favourable conditions for the development of innovations in cryptocurrencies and blockchain technologies, encouraging the implementation of new projects and stimulating the development of Ukraine's creative economy.

The revealed freedom of pricing through micrometrics allows blockchain to take an important place in the creative industry management segment. After all, this disruptive innovation redefines the smallest consumable unit of creative work. While digital music stores allow consumers to buy individual songs, blockchain can make fragments of creative work available for a price; for example, a few seconds of a song to be used in a film trailer.

Despite the benefits of introducing blockchain technologies in the creative industry, Ukraine lacks legislative regulations defining the rules for using blockchain in the promotion of creative products. As a result, these circumstances slow down their implementation.

Therefore, it is important to update the research on blockchain technology by engaging experts and making investments. These efforts can contribute to creating effective and innovative solutions in the creative economy and will promote the development of the creative industry and socio-cultural activities in general.

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