

DIGITAL PUBLISHING

Media DAO: A blockchain-based model for the transformation and innovation of the publishing and media industry

Xiaofeng Chen^{1,2,*}, Sirui Li³, Lingli Tang¹

¹School of Computer Science and Artificial Intelligence, Wuhan University of Technology, Wuhan 430070, Hubei Province, China

²Editorial Department of Science & Technology Progress and Policy, Hubei Academy of Science and Technology Information, Wuhan 430071, Hubei Province, China

³School of Law, Humanities and Sociology, Wuhan University of Technology, Wuhan 430070, Hubei Province, China

ABSTRACT

The publishing media industry faces many challenges such as outdated innovation mechanisms, strict information control, low quality of content creation, unfair distribution of content, and poor management of content rights, *etc.* Media decentralized autonomous organization (DAO), a blockchain-based media organization, offers innovative solutions to these problems through its decentralized nature, new organizational form, and governance. This paper compares the differences between the traditional publishing media industry and media DAOs, discusses the changes that media DAOs have brought to the publishing media industry, and explores future trends and challenges in the publishing media industry. The goal is to guide the publishing media industry to break away from stereotypical thinking and further explore the room for development.

Key words: media decentralized autonomous organization, publishing media industry, media transformation, blockchain

INTRODUCTION

The publishing and media industry is an important part of the cultural industry, but is currently facing many challenges such as outdated innovation mechanisms, strict control of information by the government and the market, low quality of content creation, unfair content distribution models, and poor management of content rights,^[1] which not only hinder the development of the publishing and media industry but also fail to effectively protect the rights of creators. These problems have become even more prominent with the continuous

innovation and opening up of Internet technologies and the rise of user-driven media creativity, which have not only hindered the development of the publishing media industry but also prevented the rights of creators from being effectively protected. Therefore, finding a new publishing model that is decentralized, open, and shared is a necessary requirement for the industry's progress. Blockchain technology and the concept of decentralized autonomous organization (DAO) offer a new way of thinking in this regard.

DAO is a novel form of organization that uses blockchain technology and smart contracts to achieve decentralized self-governance. There is no consensus on the exact definition of DAO, but some possible ones are as follows: Luis Cuende, the co-founder of Aragon DAO platform, defines it as “a native entity on the Internet without centralized management, regulated by a set of automatic and enforceable rules on the public blockchain, whose goal is to live its own life and inspire people to achieve a common mission”.^[2] Scholars of blockchain networks define a DAO as “a blockchain-based system that enables people to coordinate and govern themselves through a set of self-executing rules

*Corresponding Author:

Xiaofeng Chen, Editorial Department of Science & Technology Progress and Policy, Hubei Academy of Science and Technology Information, No.2, Hongshan Road, Wuchang District, Wuhan 430071, Hubei Province, China. Email: louis7739@qq.com; <https://orcid.org/0000-0003-3598-695X>

Received: 29 June 2023; Revised: 19 July 2023; Accepted: 7 August 2023; Published: 28 August 2023

<https://doi.org/10.54844/ep.2023.0418>

 This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs 4.0 International License (<https://creativecommons.org/licenses/by-nc-nd/4.0/>).

deployed on a public blockchain, with decentralized governance (*i.e.*, independent of central control)^[3]. Based on these definitions, DAO involves issuing tokens to authenticate the participants' identities, distribute rights and interests, and allocate resources. The token holders can exercise their management rights and receive income distribution according to their stake in the DAO, thus pursuing the common goals of the organization. Media DAO is a specific type and application scenario of DAO, which follows the same concept and technical implementation scheme of DAO, such as decentralized autonomy, token-based incentive mechanism, reliance on smart contracts, *etc.*, but focuses more on applications in the media field, such as content production, dissemination, and management. Through its decentralized features, new organizational forms and governance mechanisms, it can provide new solutions and innovation opportunities for technology sharing, copyright, data protection, property rights management, *etc.* in the publishing media industry, as well as possible paths to realize the platformization, communityization and sharing of the publishing media industry.

Up to now, several media DAOs around the world, including Forefront DAO, BanklessDAO, Madrealities DAO, and so on, have begun to lay out the media industry. Although media DAO is currently unable to break the content production and development pattern of the media industry, the new organizational forms, profit models, and content production methods it brings will provide a direction for the new development of the publishing media industry. Laying out media DAO in advance is conducive to building a new mainstream media public service system in advance, which will help promote the development of the publishing media industry. However, there are some problems with media DAO, including insufficient technological development, legal risks, and unsound governance model.^[4] Therefore, while promoting media DAO, attention should be paid to solving these problems so that it can play a greater role in the publishing media industry.

In this paper, we will start with the comparison between media DAOs and traditional publishing media, and sort out the differences between traditional publishing media and media DAOs (the discussion of traditional publishing media in this paper is based on government-led public publishing media, which are supported by the government but adopt the business model of self-management and market-oriented operation). We will then explore the changes that media DAOs may bring to the publishing media industry and explore how the advantages of media-based DAOs can be utilized to coordinate the development of the publishing media industry. Finally, we hope to provide a new perspective for the publishing and media industry, and expect to provide the publishing and media industry with lessons

on new organizational forms and governance styles when looking for innovative paths.

MEDIA DAO TRIGGERS A NEW EXPLORATION OF THE DEVELOPMENT OF THE PUBLISHING AND MEDIA INDUSTRY

The publishing and media organization constructed based on the operation logic of media DAO is no longer subject to the decision-making of the centralized organization, but to realize the publishing and dissemination of content and the realization of value in a more decentralized and open form. The whole operation process provides ideas for the specification of creators' rights and interests and the realization of the autonomy of the publishing process, as well as a guarantee for the realization of the decentralized publishing organization model, further simplifying the management structure of the traditional publishing media organization.

Differences between media DAO and traditional publishing media organizations

The traditional publishing and media industry (dominated by government-led public publishing media) has a clear set of hierarchical management structures, with the government providing financial subsidies and shareholders making capital investments, the board of directors overseeing the management of the company, the chairman of the board being in charge of the operation of the media company, hiring content creators for content editing, and the media company earning profits from audience traffic. However, due to the long operating cycle and capital return period of the publishing media industry, it is often not self-sufficient in terms of capital chain. In addition, the traditional publishing media industry usually adopts a centralized and authoritarian leadership decision-making system, whereby a small number of people make important decisions, which in the long run may lead to biased content, lack of transparency, and even harm to the rights of creators. The organizational and management structure of traditional publishing media can be seen in Figure 1.

In media DAO, a new type of management structure is realized through smart contracts and blockchain technology, which breaks down the traditional hierarchical system and allows for leveled autonomy, and the core of this management structure lies in the role of the executive committee. The executive committee replaces the role of the board of directors in traditional organizations and is responsible for the execution of autonomous management. At the same time, in media DAOs, there is a certain overlap between the roles of investors, media, and users, which means that these roles

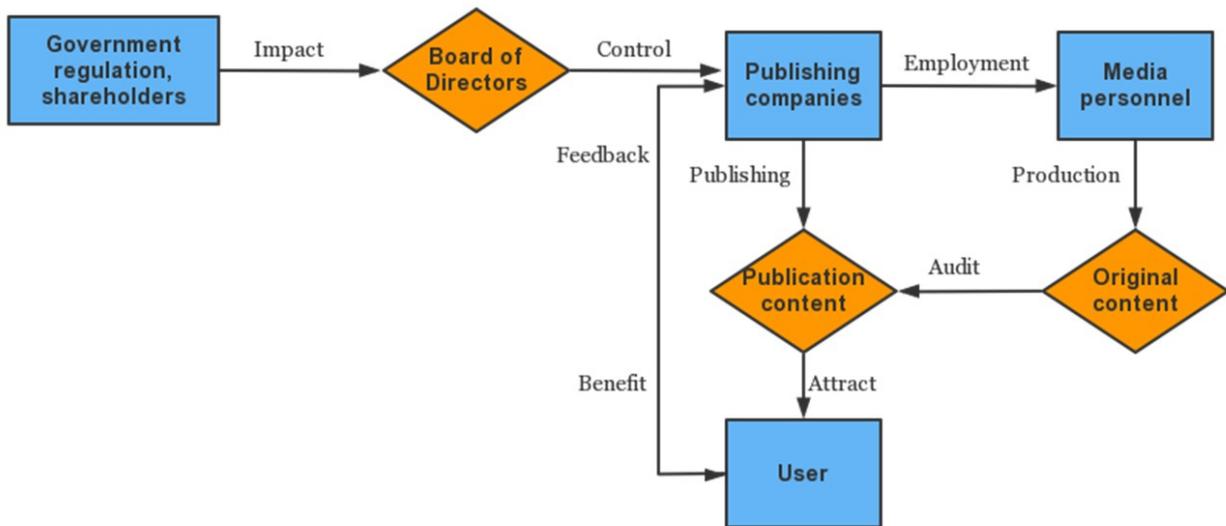


Figure 1. Organization and management structure of traditional publishing media.

are all risk-takers and governors of the organization. Among other things, users can participate in the creative process as content creators, as well as submit original work, comments, suggestions, and contributions, rather than just being recipients of information. There has also been a shift in media employment, from a traditional employment relationship to voluntary member participation, which allows media DAOs to communicate globally across geographies and without time differences. By co-constructing content and output, media DAOs can form a new form of organization in which value can be created.^[5] It is important to note that media DAOs are not exempt from regulation, even though they do not have a prominent government regulatory component. Their operation is still subject to technical regulation and legal frameworks. Media DAOs are expected to operate in a way that ensures self-regulatory capabilities in terms of data security, user privacy, copyright protection, and compliance with local legal frameworks. The media DAO management architecture can be seen in Figure 2.

By comparing the process diagrams above, we can clearly see the difference in operational logic between the two. While there are commonalities in the underlying processes of business execution, publishing content output, and distribution, there are significant differences in other areas. In the media DAO under the blockchain logic, autonomous business models and innovative business concepts emerge, and these new elements can bring new development ideas to the publishing media industry. Specific differences can be seen by comparison (Table 1).

For example, consider the content censorship mechanisms of traditional media and media DAOs. In both models, producers of original information have to submit their content to a censorship organization for approval before publishing. In the traditional media industry, editors and regulators usually review and monitor the original information to ensure its quality, accuracy, and compliance. However, in media DAOs, the review and vetting process tends to be more open and transparent, and community members can participate in the content review and voting process to ensure a diversity of perspectives and democratic decision-making.

The development potential of media DAO application in publishing media industry

Changes in communication technology and environment will lead to huge changes in the publishing and media industry. First of all, the development of digitalization process makes the publishing media industry face diverse knowledge-based demands and also face an explosion of information input. In the digital environment with sufficient information, how to control the user demand and the supply of publishing content is one of the issues to be considered by the publishing media industry. At the same time, the development of information technology has provided the public with more convenient creative channels and enabled the continuous development of open access publishing to bring opportunities for the realization of value for the public, making the monopolistic publishing model gradually lose its market. In addition, the traditional publishing and media industry is often controlled by

Table 1: Comparison of the differences between traditional publishing media industry and media decentralized autonomous organization

Point of difference	Traditional publishing and media industry	Media DAO
Media operations	Centralized controller control	Democratization of decision-making
Content creators	Employees employed with the media	Contractual relationships, common interest risk parties
Content review mechanism	Editorial and regulatory gatekeeping	In addition to the committee, community members are involved in reviewing decisions
Profit method	Publications for sale	Crowdfunding, community activism
Governance model	By the will of the board of directors	Smart contracts and member comments
Organizational structure	Multi-level system	No top leader at equal level
Media, user and funder relations	Interest chain groups of diverse groups	Co-beneficiaries and governors

DAO: decentralized autonomous organization.



Figure 2. Media decentralized autonomous organization management architecture.

large commercial companies, which can gain more revenue by controlling the distribution of content, while content creators often find it difficult to get fair compensation from it and to protect their own copyrights, in summary, the problems currently facing the traditional publishing and media industry are shown in Table 2.

In the development of media DAOs, governance mechanisms are examined in relation to existing developments. For example, governance issues in the structure and function of DAOs,^[6] DAO’s proposed new blockchain governance protocol,^[7] etc. In addition, there are corporate governance^[8,9] and regulatory applications.^[10] The development of DAO extends the way of governance and innovates the concept of governance, regulation, and privacy protection. Its development shows that DAO is not only a technology applied to industry governance and regulation, but also can provide innovative ideas and ways to study the organization form, governance, and business management model of various industries. The development of DAO has expanded the way governance is done, innovating governance,^[11] regulation,^[12] privacy protection,^[13,14] and other aspects of the concept. Its development shows that DAO is not only a technology

applied to industry governance and regulation, but also can provide innovative ideas and ways to study the organization form,^[15] governance, and business management model of various industries.^[16]

Media DAO also has an important role in the development of the publishing media industry. It provides a new organizational form and operation mode for the publishing media industry, which can revolutionize the traditional publishing model. For example, the development advantages brought by the decentralized management mode of media DAO can provide a reference for the highly authoritarian management mode of traditional publishing and media enterprises. The management of digital copyrights through smart contracts can enable content creators to receive fairer compensation, providing ideas for the sustainable development of the traditional publishing industry. In addition, it can also realize the communication across geographical areas without time difference, so that the publishing media industry can more conveniently interact with global users.

In conclusion, media DAO is of great significance in the publishing media industry, which brings new development ideas and ways for the publishing media

Table 2: Problems currently facing the traditional publishing media industry

Problem	Description
Content and form	Content is highly homogenized and not innovative enough
Organizational structure	Rigid organizational structure and long decision-making process
Incentives	Insufficient incentives for creators, unreasonable share of remuneration for articles
Rights and interests	Insufficient protection of creators' rights and interests, difficult to effectively protect copyrights

industry, enabling the publishing media industry to adapt to new technologies and environmental changes, and realize transformation and upgrading. It can provide a more innovative, autonomous, fair, and convenient operation and management mode for the publishing media industry, thus helping it to realize more efficient and effective operation.

MEDIA DAO RESHAPES THE OPERATION AND MANAGEMENT MODEL OF THE PUBLISHING MEDIA INDUSTRY

Media DAO, as a new organizational management model, can reshape the traditional organizational management model through decentralization and autonomy mechanism supported by blockchain technology.^[17] In the publishing and media industry, the application of media DAO can not only drive publishing content output and protect the rights and interests of content creators but also improve the innovation ability of the media industry, bringing new opportunities and challenges to the publishing and media industry, as well as bringing a new business management model to promote community-based operation and decentralized financial management in the publishing and media industry, providing blockchain technology guarantee.

Media organizations are operating in community, forming a new model of content crowdfunding

According to the media scenario theory proposed by the famous American communication scholar Meyrowitz, electronic media influences human communication precisely by changing the occasions of people's interaction.^[18] In traditional publishing media, there is a separation between content creators, readers, and funders, with funders making investments in media, media hiring content creators for content production, and readers acquiring content, with a one-way chain of interests between the three. Although content production can now be partially diversified and presented along with the expansion of the openness of media platforms, the basic model of the publishing and media industry remains unchanged. The new organizational form of media DAO that is currently being formed is causing changes in the form of social situations and thus changing the form of people's social

roles. Unlike traditional forms of publishing media organizations, the interaction between creators, media, and readers is broken in media DAOs, and their identities appear to overlap to a certain extent, allowing for partial identity interchange. In addition, members from organizations with different identities can build a community organization that investigates the communication content of a certain topic. In this organization community members can interact and collaborate with each other to promote innovation and diversity of content, share knowledge and experience, and propose innovative ideas and suggestions, thus promoting innovation and diversity of content and improving the quality and value of content. In such an organization, members present collaborative content production, information sharing, and co-creation of value. In addition, community members participate in project management and decision-making, and this community-based operation model not only better reflects the needs and interests of community members, thus improving the quality and relevance of content, but also motivates community members to drive content production and development through contribution and participation, bridging the gap between traditional media and audiences, allowing content to be more relevant to users' needs and better contribute to the sustainable development of media organizations. This model aligns well with the core values of blockchain, such as collaboration, sharing, integration, and mutual benefit, forming a new model of media content crowdfunding. In the case of DarkstarDAO, for example, after June 17, 2021, the authors of articles and posts published by the organization changed from a series of quoted collaborators to multiple authors. This new form of organization opens new opportunities for the publishing and media industry, allowing for a closer relationship between creators, media, and readers, and the interchange of identities.

Flattening management structure and breaking unilateral monopoly decision-making

The traditional management of the publishing and media industry is usually controlled by a few large companies or institutions, and the content decision-making process needs to consider many factors, such as policy documents, society and culture, market environment,

etc. Coupled with a highly authoritarian management model, major decisions are usually made in a centralized team,^[19] which greatly inhibits the enthusiasm and independent initiative of media members. In recent years, with the development of media convergence and the establishment of all-media channels, the publishing and media industry has been digitally innovating in content selection, operation, and distribution. Content decision-making has also become more open, especially when creating short-form video content, which is divided into small groups for discussion and decision-making. This has relaxed centralized decision-making to some extent. However, governance in the publishing and media industry is still dominated by centralized control, and members of the media have only the right to speak among themselves, not the right to control. In the media DAO, a flat structure and decentralized management mechanism are used to break the unilateral monopoly type of decision-making in the traditional organizational management model. Instead of individual dictatorship, media operations rely on community consensus and a set of rules to manage the entire organization. There is no top manager in the organization, the management structure is flattened, and pass-holders in the community will make collective decisions based on smart contracts instead of centralized groups, decentralizing decision-making power to community members, reducing the control of centralized institutions over decision-making and increasing the participation of community members in decision-making. This enables the organization to be more adaptive and efficient in decision-making. At the same time, this model makes the relationship between management and employees more equal and reduces the hierarchical gap between management and employees. It makes community members more autonomous and active, which in turn increases organizational flexibility and agility to better meet user needs and market changes. In the case of PubDAO, for example, the editors' union will come up with ideas together in the "Discord" channel and choose the most interesting stories to write about before deciding on a topic, rather than having a unilateral monopoly on decision-making as is the case in traditional media.

Innovative incentives to reshape new ways of distributing the value of media content

In traditional publishing and media platforms, financial support usually comes from centralized institutions or government grants, and the creators of content often only get paid from these platforms. However, such incentives are not sufficiently fair and effective, realizations and copyrights still belong to the platforms, and pricing is in the hands of the platforms, which suffers from poor transparency and democracy. It is difficult for media professionals to know how much they are actually getting for their work, which means there is a "black

box" of benefits. In self-media platforms, content creators are dependent on the platform, and it is difficult for them to realize cash directly. They can only earn revenue through traffic tiering, advertisement implantation, platform fees, *etc.* This results in the revenue of creators being divided into layers, which makes it difficult to ensure that the interests of creators are safeguarded. And from the perspective of media DAO, its incentive mechanism is realized through smart contracts, and this decentralized financial management can improve the efficiency and transparency of the use of funds, better protect the interests of community members, and stimulate the participation motivation of members. In the publishing media industry, the decentralized incentive mechanism approach allows community members to participate more equally in revenue distribution, reduces the control of centralized institutions over revenue distribution, and improves the participation and satisfaction of community members. In addition, media DAO is built on top of the blockchain and enjoys the decentralized characteristics of the blockchain, and its unique decentralized financial management method can also guarantee the transparency and security of the flow of funds through the blockchain technology,^[20] prevent financial malpractice and fraud, and allow community members to get their due compensation in a fairer way, reduce the control of centralized institutions over the distribution of revenues, and solve the problem of unreasonable remuneration for contributions. In addition, smart contracts can also automate the contribution settlement, redefining the way of media content value distribution and forming the incentive mechanism of distribution according to work. This transparent distribution of value brings two advantages: First, it realizes fair compensation for creators, and financially free creators are no longer affected by media bias and can create the content they want. Second, it helps creators shape their own brand value and form a weighting of their own creativity.

Blockchain technology support, reshape the way of digital content rights protection

In the traditional publishing and media industry, creators often face digital rights dilemmas, particularly in terms of copyright protection, revenue distribution, and intellectual property management. First, in terms of copyright protection, creators lack effective digital rights management tools, making it difficult for them to register and protect their works, which are often subject to piracy and infringement. Second, creators are often unable to fully enjoy the benefits of their works, and it is difficult for content creators to receive fair remuneration due to the various intermediate links in the traditional publishing and media industry, which lead to unfair distribution of benefits. At the same time, creators also

face difficulties in managing their intellectual property rights. Lack of digital copyright protection technology and lack of anti-piracy means often make it difficult to effectively manage their works. By adopting blockchain technology, media DAO can provide a safe and reliable digital content rights protection mechanism and reshape the way of digital content rights protection. In the media DAO model, the blockchain underlying technology ensures that the intellectual property rights and copyrights of content creators are effectively protected, and at the same time, it also ensures that the circulation of content and the right to use it are effectively managed through technologies such as smart contracts and automatic execution, enabling content creators to receive fair treatment, in which the content creators are able to better protect their own rights and interests and realize higher revenues, thus better stimulate the enthusiasm for creation.^[21] Taking BanklessDAO as an example, through the distribution of BANK passes to make community members hold part of the ownership of DAO, the value created by the members will be recorded permanently as the members' personal achievements and rewards will be distributed in terms of the size of personal contribution value.

MEDIA DAO ENABLES THE INNOVATION PATH OF PUBLISHING MEDIA INDUSTRY

Media DAO organizations can not only improve efficiency and transparency through decentralized management structures and community-based operation models but also democratize and make decisions transparent through community governance mechanisms and smart contract technology. Although media DAOs are currently more difficult to implement in the publishing and media industry, and the changes they bring to the media are limited, the model and thinking they bring will have implications for the entire publishing and media industry. From another perspective, it is difficult to fully implement DAO organization across the publishing media industry, but there is enormous potential to DAO some parts of the business processes within the media.

Establishment of a collaborative creation platform to provide an innovative path for cultural supply

In the traditional publishing and media industry, cultural supply is mainly managed and operated by centralized organizations, such as publishing houses or media companies, which are responsible for the planning, creation, distribution, and promotion of content. These organizations usually have substantial resources and power to determine the direction and quality of content supply. These organizations are also responsible for maintaining relationships with other relevant institutions,

such as advertisers and government agencies. This centralized organizational model leaves the cultural supply under the control of the centralized organization and lacks community participation and interactivity. However, there are many problems with this model, such as operational inefficiencies, lack of user participation, and room for innovation. Media DAOs, on the other hand, reshape the cultural supply through a community-based content crowdfunding operation model and a decentralized management structure. The publishing and media industry can learn from this model to redefine the concept of cultural supply, transforming cultural supply into a community-participatory process, establishing a community-based operation mechanism, and allowing readers to participate in the planning, creation, distribution, and promotion of the content, creating an open platform that allows more people to participate and incorporate more perspectives and ideas into the content, and improving the efficiency of cultural supply through decentralized management models.^[22] At the same time, there will be innovations in the form of collaborative creation. The newly emerged media DAO "Madrealities DAO" is a decentralized media platform that is trying to create the first Web3 interactive TV channel, which can realize the whole interactive process of disseminating content. It is a series of dynamization from the creation, participation, actors, *etc.*, to form a completely autonomous form of content presentation, handing over the autonomy to the users and forming a collaborative and participatory dynamic content presentation, which will surely bring new scenarios for the video presentation in the process of digital transformation of the publishing and media industry.^[23]

Construct distributed autonomous structure and introduce smart contract governance

In order to realize flat management in the form of media DAO, it is necessary to establish a distributed autonomous network structure and introduce a smart contract governance mechanism. This autonomous network requires media organizations to formulate certain rules and protocols for effective governance, so smart contracts can be introduced to regulate network activities and organizational operations, and the core governance rules can be encoded by means of smart contracts and automated based on the certainty and trustworthiness of blockchain technology, thus forming an autonomous system that does not rely on a central institution for management. Important governance decisions can be made using BanklessDAO decision-making, which is generated through voting by token holders in the DAO, with token holdings representing the decision-making weights of the participants, and the voting is carried out in a decentralized and transparent manner, with the results being automatically executed, and the entire decision-making process can be encoded

by means of a smart contract, without human intervention. And the cryptographic algorithms and the tamperability of blockchain data can be used to make the whole system highly resistant to change, and once the governance rules and protocols are determined, it is difficult for any individual or group to manipulate them, which ensures the stable operation of the entire media organization.^[24] This structure provides a new organizational form that can break the concentration of power and strict hierarchy in traditional media, break the rigid traditional media organizational structure, establish a more open, transparent, and efficient management mechanism, and inject new vitality into the media industry.

Constructing DAO-like distributed organizations to extend the new model of media profitability

Media DAO organization model has the advantages that traditional publishing and media enterprises cannot compare. At the start-up stage, traditional enterprises face the “cold start problem”, *i.e.* there is a long start-up period from financing to formal operation, and the investment is large and the return is slow.^[25] However, media DAO organizations can be operated through blockchain-based crowdfunding at the early stage of establishment, which is faster and more flexible than the startup of traditional media enterprises, and the investors participate in the operation of the organization and become the co-bearers of the organization’s risks. This approach can provide ideas for the media industry, media companies can establish an upgraded version of distributed organization similar to media DAO while running, design relevant business models and organizational autonomy, and realize the gradual transformation of media to DAO. In addition, the publishing media industry usually has an imbalance in the distribution of interests between content producers and publishing and distributing parties, and the creators receive too low a proportion of compensation. In contrast, media DAOs can introduce blockchain technology and use smart contracts for accurate calculation and automatic distribution of content value. Content producers can register their digital works on the blockchain, and the system can accurately record content output, dissemination, and consumption, and automatically distribute revenues according to the agreement. It can also improve the liquidity of assets through the Non-Fungible Token (NFT) of assets and go for trustless transactions based on NFT’s features such as instant verification of authenticity and ownership to realize creators’ profitability and break the problem of insufficient incentives. And in media-like DAO, we can try to introduce token-supported subscription and payment models, where users pay fees to directly gain access to content and creators get revenue feedback. At the same time, a point

reward mechanism can be set up to encourage users to actively participate in content production and governance, and to obtain system tokens quantitatively according to their contribution, which can be used for platform transactions, upgrades, and so on. This incentive mechanism links the activity of members with profit-making, while bringing more economic benefits to the publishing media industry. The publishing and media industry can learn from this incentive mechanism and expand its business by participating in media DAOs to gain new sources of revenue, build the value of its own content, and expand its profitability and incentive model.^[26]

Regulate content ownership and build a new form of industry credit

“Blockchain truly enables end-to-end verifiability”, says Pete Martin, CEO of blockchain voting company Votem.^[27] In media DAOs with blockchain as the underlying logic, members’ contributions are transparently displayed according to the rules of smart contracts, and most DAOs will develop participatory budgeting methods so that team members can jointly develop compensation structures, making work pay transparent and having clear records of content ownership.^[28] However, with the development of big data, artificial intelligence, cloud computing, and other information technologies, the publishing and media industry, while providing convenience and personalization to the public, also uses the public’s data as a record of their individual thoughts and behaviors, putting everyone in a “digital prison” and making the public’s enjoyment of privacy under the technological trend face unprecedented challenges.^[29] This has led to unprecedented challenges to the enjoyment of privacy in the face of technological trends. In this situation, the public has a strong demand for content copyright and data protection. Therefore, the publishing media industry can learn from the rules of operation of media DAO in the content production process, by binding the digital identity of users and casting the published content as NFT as a digital collection when users publish content so that creators have more control and ownership to ensure the ownership and traceability of content, and provide technical support for news copyright protection. In this way, not only can the ownership of content by media members be determined, but also source authentication can be achieved. This will help the publishing and media industry to protect copyright, while also providing more privacy protection for the general public.

CONCLUSION

The publishing and media industry is an information industry that produces and disseminates a large amount

of information, and is responsible for guiding the dissemination of positive ideologies and developing cultural and educational industries. The content it transmits is directly related to social concepts, values, and behavioral norms, and the special nature of the communication process gives it great social influence, so it has high requirements in terms of content production. In the case of traditional publishing media, in addition to the strict requirements for the professionalism and professionalism of media professionals, the content and quality of communication will be strictly controlled to make the content meet the actual needs of social development. However, the members of media DAO who produce content are complicated and do not go through strict screening. Although members will vote and screen the content before it is published to collaborate to make it published, it still has a big gap with the strict requirements of traditional publishing media. In addition, the current technical maturity of media DAO still needs to be improved, although it can be a new way of organizing media and bring new opportunities for the publishing media industry, it also depends on how publishing media companies use this innovative technology to drive business development. Overall, learning from the DAO business management model is not a straightforward process, and although its business management model has implications for China's publishing media industry, full research and pilot verification are needed in its practical application.

DECLARATION

Author contributions

Chen XF: Conceptualization, Writing—Original draft, Writing—Review and Editing. Li SR: Writing—Original draft, Writing—Review and Editing. Tang LL: Conceptualization, Writing—Review and Editing.

Source of funding

This research received no external funding.

Conflict of interest

The author has no conflicts of interest to declare.

REFERENCES

1. Qiu JS, Yao L, Hu J. [A review of convergence development of publishing groups in China]. *Publ J*. 2019;27(6):56–62.
2. El Faqir Y, Arroyo J, Hassan S. An overview of decentralized autonomous organizations on the blockchain. In: *Proceedings of the 16th international symposium on open collaboration*. Association for Computing Machinery; 2020: 1–8.
3. Zargham M, Nabben K. Aligning decentralized autonomous organization to precedents in cybernetics. SSRN. Accessed November 20, 2022. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4077358
4. Wang S, Ding W, Li J, Yuan Y, Ouyang LW, Wang FY. Decentralized autonomous organizations: Concept, model, and applications. *IEEE Trans Comput Soc Syst*. 2019;6(5):870–878.
5. Singh M, Kim S. Blockchain technology for decentralized autonomous organizations. In: Kim S, Chandra DG, Zhang P, eds. *Advances in Computers*. Elsevier; 2019; 115: 115–140.
6. Chohan UW. The decentralized autonomous organization and governance issues. *SSRN Electron J*. 2017:1–17.
7. Liu L, Zhou SC, Huang HW, Zheng ZB. From technology to society: An overview of blockchain-based DAO. *IEEE Open J Comput Soc*. 2021;2:204–215.
8. Kaal WA. Blockchain Solutions for agency problems in corporate governance. In: Balachandran KR, ed. *Information for efficient decision making*. World Scientific; 2020: 313–329.
9. Murray A, Kim D, Combs J. The promise of a decentralized internet: What is Web3 and how can firms prepare? *Bus Horiz*. 2023;2:191–202.
10. Lafarre A, Van der Elst C. Blockchain technology for corporate governance and shareholder activism. *SSRN Electron J*. 2018.
11. Chen JD. [The legal nature of the blockchain DAO in the perspective of token holders]. *J Shanghai Univ*. 2020;37(2):79–89.
12. Far SB, Bamakan SMH. Blockchain-based reporting protocols as a collective monitoring mechanism in DAOs. *Data Sci Manag*. 2022;5(1):11–12.
13. Dai J, Vasarhelyi MA. Toward blockchain-based accounting and assurance. *J Inf Syst*. 2017;31(3):5–21.
14. Zhou WH, Kang WT. [A study of blockchain-based intelligent governance mechanism—The DAO as an example]. *Financ Accounti Mon*. 2022;(10):123–131.
15. Saurabh K, Rani N, Upadhyay P. Towards blockchain led decentralized autonomous organization (DAO) business model innovations. *Benchmarking*. 2023;30(2):475–502.
16. Axelsen H, Jensen JR, Ross O. When is a DAO decentralized? *Complex Syst Inform Model Q*. 2022;(31):51–75.
17. Faqir-Rhazoui Y, Arroyo J, Hassan S. A comparative analysis of the platforms for decentralized autonomous organizations in the Ethereum blockchain. *J Internet Serv Appl*. 2021,12(1):1–20.
18. Zhang HY. [Electronic media, situation and social behavior—A study on Meyrowitz's situation theory of media]. Lanzhou: Lanzhou University. 2007. (Thesis)
19. Feng G, Liu HG. [The impact and reinvention of decentralization on traditional organization law: A study of decentralized autonomous organization (DAO)]. *J Soc Sci*. 2023;513(5):171–184.
20. Feng Q, Xue JY, Wu ZL, Gong L. [Research on security application of blockchain in radio and television industry]. *Radio Telev Technol*. 2020;47(4):16–19.
21. Zheng Y. [Study on the application of blockchain in digital book copyright governance]. *Libr Work Study*. 2022;(12):31–37.
22. Zhou JC, Chen XY, Ji T, Zhang CJ. [Build a library reader community and industry ecology with DAO]. CNKI. Accessed July 19, 2023. <http://kns.cnki.net/kcms/detail/23.1331.G2.20230619.1732.002.html>
23. Yan JQ, Chen RQ, Chen H, et al. [Analysis of the development of the Metaverse industry and its impact on the media industry]. *News Writ*. 2022;(1):68–78.
24. Yang D, Gao YC. [The reconstruction of the organizational model of entities in Metaverse]. *J Shanghai Univ*. 2022;39(5):75–87.
25. Zheng L. [Management innovation in meta verse: An approach from hierarchical system to decentralized autonomous organization]. *J Dongbei Univ Financ Econ*. 2023;(1):39–48.
26. Thorpe EK, Zhang JZ. [Revenue diversification: NFT, e-commerce and subscriptions]. *Youth Journalists*. 2022;(1):96–97.
27. Zhang YX. [Decentralized DAO is “empowering” media]. Deutsche Welle Vision. Accessed December 11, 2022. <https://mp.weixin.qq.com/s/eXsUfvypDGP345NtcdkVg>
28. Bellavitis C, Fisch C, Momtaz PP. The rise of decentralized autonomous organizations (DAOs): A first empirical glimpse. *Ventur Cap*. 2023;25:187–203.
29. Lumineau F, Wang WQ, Schilke O. Blockchain governance—A new way of organizing collaborations? *Organ Sci*. 2021;32(2):500–521.