Establishing a Trust Mechanism for New Media Content Based on Blockchain Technology - Post-print

Authors: Zhang Qiang

Date: 2023-10-08T00:00:00+00:00

Abstract

In the era of new media, the media industry has transitioned from traditional print media to the new media landscape. Simultaneously, content e-commerce has become increasingly intertwined with the daily lives of the general populace. Within this context, the e-commerce sector, driven by commercial interests, has made the creation of new media content to monetize traffic a pivotal element for corporate survival and development. Nevertheless, the inadequate rigor of trust mechanisms for new media content has engendered low public confidence in such content, substantially impairing the interests of original new media creators in the e-commerce industry. Hence, the establishment of a blockchain-based trust mechanism for new media content is of utmost urgency. This paper analyzes the overview of blockchain-based new media content trust mechanisms and further investigates the detailed implementation of such mechanisms, thereby offering feasible references for their construction.

Full Text

Preamble

Establishing a New Media Content Trust Mechanism Based on Blockchain Technology

(China Media Group, Beijing 100000)

Abstract: In the new media era, the media industry has transitioned from traditional print media to new media platforms. Concurrently, content e-commerce has become more deeply integrated with daily life. In this context, to pursue commercial interests, the e-commerce industry relies on creating new media content to generate traffic revenue, which has become a critical component of corporate survival and development. However, due to insufficient rigor in new media content trust mechanisms, public trust in new media content remains

low, significantly harming the interests of original new media creators in the e-commerce sector. Consequently, establishing a new media content trust mechanism based on blockchain technology is imperative. This paper analyzes the general landscape of blockchain-based new media content trust mechanisms and further examines the specific details of their establishment, providing a feasible reference for building such mechanisms.

Keywords: blockchain technology; new media; content; trust mechanism; establishment details

Classification Number: G206
Document Code: A
Article ID: 1671-0134 (2021) 02-042-03
DOI: 10.19483/j.cnki.11-4653/n.2021.02.009
Citation Format: Zhang Qiang. Establishing a New Media Content Trust Mechanism Based on Blockchain Technology [J]. China Media Technology, 2021(02): 42-44.

Trust is the cornerstone of a stable social order and the foundation for maintaining long-term social relationships. In the new media era, leveraging blockchain technology to enhance social cohesion can significantly reduce social operation costs and stabilize social relations.[1] Nevertheless, because the globalized technical trust network created by public blockchains exists within the same complex system as blockchain technology itself, failures or errors in any component—such as cryptography, protocols, software, computers, or networks—can differentially impact the trusted central mechanism under blockchain. This provides a basis for reliability.

2.3 Asymmetric Encryption and Authorization Technology

After new media content is published, the public nature of trust mechanism information, system openness, and the high transparency and encryption in blockchain data query and development applications greatly contribute to ensuring data security, protecting personal privacy, facilitating trust in transaction algorithms, and accumulating identity information.[3]

2.4 Smart Contracts

The new media content trust mechanism is primarily based on smart contracts' immutability for information credibility. In the automated and integrated execution of rule clauses, it explains blockchain consensus specifications and protocol system node trust environments. In data exchange, it becomes more mechanized, secure, and interactive, and is not altered by human factors.[4]

1. Overview of Blockchain-Based New Media Content Trust Mechanisms

Initial trust originated from human-machine trust based on blood-related communities, representing the maintenance of an empirical "moral personality" in the social public opinion field, which held certain advantages in trust scope, cultivation time, content, and flexibility. With societal development, institutional trust constrained by contracts, regulations, and systems became more influenced by existing basic principles of social operation. As the credit system evolved into the "public blockchain as a global accounting and auditing network" form of machine trust, it earned the special designation of "trust machine." [2]

2. Analysis of the Essence of Blockchain-Based New Media Content Trust Mechanisms

Under blockchain technology, new media content trust mechanisms have transitioned from single technologies to integrated achievements in cryptography, mathematics, economics, and network science, achieving online-to-offline encryption technology transfer. Using public key addresses to send and receive Bitcoin enables anonymous personal identity information, creating a special and distinctive trust channel.

2.1 Decentralization

Compared to traditional centralized accounting solutions, distributed ledgers better accomplish complete recording of accounts across different locations and multiple nodes, preventing data insecurity and reducing system function node maintenance costs while decreasing storage space requirements for centralized hardware or management institutions.

2.2 Consensus Mechanism and Immutability

In new media content dissemination, the existing proof-of-work mechanism and the permanent storage effect of verified and added blockchain data intuitively provide data stability and reliability. The establishment of this mechanism can achieve satisfactory results in maintaining consistency of different user data initial states at any time point, building distributed networks through P2P technology, obtaining blockchain data from different sources, and verifying data accuracy. The specific technical mechanism analysis is shown in Figure 1 [Figure 1: see original paper].

3.1 Establishment Background

The essence of the Internet is that those who acquire traffic acquire the world, while the substance of new media content dissemination is to gain public recognition and achieve precise traffic guidance in reality. This extends to new media reading, film and television viewing, music appreciation, audio-visual content,

and major headline sections—all involving keyword searches. Any copywriting release begins with sharing and layout of exquisite timely articles to achieve opening traffic guidance.

The establishment of a trust mechanism based on new media content must undertake functions including pre-event guarantee, in-process coordination, and post-event accountability while being grounded in trust for new media content, ensuring fairness and credibility in new media content publication and avoiding most disputes during interaction processes.[5] Based on this, the key challenge for blockchain technology is exploring how to enable trusted interaction between mutually distrustful parties without relying on new media content itself. Blockchain technology achieves a decentralized trust mechanism through multiple existing technologies including P2P networks, asymmetric encryption, and consensus mechanisms.

3.2 Establishment Empirical Analysis

The establishment of new media content trust mechanisms under blockchain technology requires designing heartfelt content and comprehensively improving content operation effects. Centered on users, the design should utilize carefully crafted text, images, videos, and other content to stimulate user feedback desires, facilitating direct ordering, liking, and forwarding. This can follow channel user profiling, user scenario decomposition, and user pain point mining.

To comprehensively enhance new media operation effects, focus on seven core aspects of new media content operation trust mechanisms, as detailed in Table 1 . The establishment can implement a "five-step method" for solution description and content detail refinement. For long content planning and user conversion rate improvement—starting from commercial details, soft articles, and hard advertisements—master six key elements: "concise introduction, scenario design, specific parameters, trust generation, payment stimulation, and assured aftersales service" to optimize conversion page content and improve conversion rates. For short content optimization in operational design, focus on designing titles, summaries, and forwarding messages. In title design specifically, summarize content essentials with keywords, rank keywords according to user concerns, string user-concerned keywords into preliminary titles, and optimize title usage techniques.[7] Additionally, improve dissemination efficiency in summary design and forwarding message composition. Given varying copywriting capabilities in content creation, improvements should be made from a promotional effectiveness perspective.

3.3 Key Establishment Points

The establishment of new media content trust mechanisms under blockchain technology must be user-centered. At the design level, utilize carefully designed text, images, videos, and other content to stimulate user feedback desires, facilitating direct ordering, liking, and forwarding. This specifically involves channel

user profiling, user scenario decomposition, and user pain point mining.

4. Research on New Media Content Trust Mechanism Establishment Strategies

The establishment of new media content trust mechanisms under blockchain technology should be a unified entity built upon healthy communication, attention to new media health information dissemination, and the construction of a public trust mechanism. Specific strategies are as follows:

4.1 Innovating Communication Concepts and Enhancing Communication Capacity

With the rapid development of the new media era and surging numbers of internet users, government response to negative public opinion has evolved from suppression, delay, concealment, and denial to a new paradigm of "active response, positive intervention, and facing problems without hiding flaws or protecting shortcomings."Utilizing new media to discover, intervene in, and respond to sudden public opinion as early as possible, promptly publishing truth and facts, effectively resolving negative public opinion, and improving government credibility to speak for the public.

4.2 Integrating Various Resources

The new media era requires government departments to strengthen collaboration with various media, fully leverage the advantages of mainstream and new media, and guide social public opinion toward positive directions. In expanding social public opinion space, 善用 "Internet Plus," digital network media, and mobile client applications to enhance the speed and credibility of new media content dissemination, forming a new pattern with comprehensive control integrating mainstream and network media in social public opinion construction.

4.3 Improving Long-Term New Media Trust Mechanisms

To further enhance the theoretical connotation and practical pathways of new media content communication capacity, communication and interaction between society' s upper and lower levels depend on gathering and integrating forces from all social strata, as well as innovating communication concepts, mechanisms, content, and methods. Strengthen monitoring and improve long-term mechanisms for network public opinion guidance. Cultivate citizens' legal awareness, guiding people not to maliciously spread false information when freely expressing opinions, but to consider the overall situation and take responsibility, jointly creating a favorable network environment.

Specific measures include establishing official new media content trust mechanism platforms, shifting from bottom-line management to information governance. During the COVID-19 pandemic prevention and control period, multiple

new media content trust mechanism platforms emerged among the public. However, which platform' s information is most trustworthy cannot be easily judged by the public alone. Only by selecting trustworthy information sources can the huge vacuum of credible information in crisis societies be filled.[8] To further increase trust in new media content, actively integrate, analyze, and publish existing internet information, and introduce third-party technical support to establish national-level official new media content trust mechanism platforms, improving the effectiveness and credibility of social information. Build online expert platforms to concentrate expert strength and provide professional information for society. Rebuild local trust to ensure information disclosure mechanisms can provide more valuable guidance for society.

5.1 Using Digital Technology to Solve Trust Problems

The blockchain industry possesses special regional advantages and can become the optimal solution for the interconnection of all things. From a blockchain technology perspective, the trust mechanism for new media content can be categorized as "a distributed shared ledger based on peer-to-peer networks, consensus mechanisms, smart contracts, and encryption algorithms." Consider the tamper-proof nature of chain-block architecture data based on timestamps; real-time operating systems based on consensus algorithms; personalized rules based on smart contracts; and the technical trust authentication and end-to-end network transaction counterparty selection based on encryption algorithms. Among these, credit is mined from digital trust to discover and promote the popularization of public trust value. This forms trusted bonds in trust-unknown or trust-weak environments, saving time and costs for trust formation while enhancing commercial credit. In wide-area, high-speed networks, zero-time-difference and zero-distance authentication improves IoT efficiency and operational reliability, ensuring digital trust achieves effects of data trustworthiness, property rights trustworthiness, authorization trustworthiness, contract trustworthiness, and legal person trustworthiness, thereby reconstructing financial models and realizing integrated trust of information flow, logistics, and capital flow.

5.2 Three-Dimensional Interaction

The establishment of new media content trust mechanisms must integrate parallel information transmission in blockchain' s distributed end-to-end architecture to achieve information sharing and control in parallel intersections. To further enhance cooperation and operational efficiency under conditions of multiple counterparties, numerous transaction links, long control chains, and high dispersion, implement multi-party participation, three-dimensional interaction, privacy security protection, and risk-free construction patterns. The architecture of new media information content technology requires large centers, closed systems, and integrated trust mechanisms.

References: [1] Gao Weifeng. Effectiveness, Participation, and Trust Rela-

tionship Reconstruction: Information Age Ideological and Political Education Thinking Innovation Based on Blockchain Principles [J]. Contemporary Education Forum, 2019(04): 108-114.
[2] Zhao Wenqing, Cui Jingui, Zhang Xiangfeng. Analysis of Knowledge Payment Models for Popular Science Journals—Taking the Dingxiang Doctor New Media Matrix as Reference [J]. Acta Editologica, 2019, 31(03): 286-289.
[3] Wanlei Zhou, Yanli Yu, Ping Li, et al. Trust mechanisms in wireless sensor networks: Attack analysis and countermeasures[J]. Journal of network & computer applications, 2012, 35(3): 867-880.
[4] Tang Yuwei, Chen Lan. Discussion on the Idea of Using Blockchain Technology to Establish Trust Mechanisms for New Media Content [J]. Time-Honored Brand Marketing, 2019(05): 60-61.
[5] Liu Weixin. Research on Content Production Mechanism of Blockchain Media Platforms [D]. Nanchang: Jiangxi Normal University, 2019.
[6] Zhang Li. Construction of Public Trust Mechanism for Health Communication in the New Media Era [J]. News Forum, 2018(05): 92-94.
[7] Chen Xuguan. Sharing Party Newspaper Platform Resources and Discussing Media Convergence Paths— "Convergence Development Path and Vision: Asking Regional Media—China Media Technology Media Salon Activity and Yunnan Provincial Party Newspaper Media Platform Cooperation Framework Agreement Signing Ceremony" Held in Kunming [J]. China Media Technology, 2017(01): 16.
[8] Song Di, Han Zhiguo. Media Development Strategy Under the Background of Triple Network Convergence—Comprehensive Report on the 10th Media Salon of China Media Technology [J]. China Media Technology, 2010(08): 42-47.

Author Profile: Zhang Qiang (1972-), male, from Harbin, Heilongjiang, journalist, research direction: journalism.
(Responsible Editor: Yang Hu)

Note: Figure translations are in progress. See original paper for figures.