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Finite and Infinite

-- Reconstruction of the Dissemination Contract of Public Opinion Events from the Perspective of Blockchain

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Abstract

Blockchain technology has gradually been applied in the media field, and social media websites based on blockchain technology appeared. In allusion to the blockchain technology and information dissemination theory, in this paper, the dissemination modes of social network public opinion under blockchain technology were taken as the research objects, the optimization effect of blockchain technology on the ecological environment of public opinion was demonstrated, and the problems that should be paid attention to when using blockchain technology were put.

Keywords

Blockchain; Public Opinion Network; Dissemination Contract.

1. Introduction

The voice expansion of public opinion brought by the prosperity of social media and the empowerment of new media continue to impact the traditional information environment, and the forms facing public opinion dissemination is more serious. Against this background, blockchain technology, with advantages of "cannot be tampered casually", "information sources are traceable", and "distributed ledger", by quickly handling online public opinion, reducing emotional online public opinion, reducing the frequency of public opinion crisis events, so as to achieve the purpose of reconstructing the dissemination contract and intelligently optimizing the network public opinion.

Regarding the application of blockchain technology in the field of public opinion, there are mainly the following opinions in the academic circles: blockchain will make the public opinion environment reconstructed from unstructured data to structured data on the network (Li Taian, 2017); blockchain technology innovates the "dispersion-aggregation" information dissemination model, expands the dissemination space, and reconstructs the post-truth (Yu Guoming, 2019), blockchain technology has strong technological advantages in the application of network rumor management and public opinion analysis guidance, etc., it can promote the innovation of the governance models of the community of shared future in cyberspace, and realize the precision, service, personalization and customization of governance (He Guangshou, 2019). The studies of the three scholars discussed the impact of blockchain on the reconstruction of the public opinion field, the construction of post-truth, and cyberspace governance three aspects. Although they are all related to the dissemination of public opinion, they still have not touched the essence; the impact of blockchain technology on the dissemination of public opinion has not been systematically sorted out. On the basis of summarizing the existing literatures, this paper will answer three problems on public opinion dissemination under blockchain technology by summarizing the public opinion dissemination modes of steemit social networking sites: what is the public opinion dissemination process

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from the perspective of blockchain technology? What are its advantages? What are the problems that need reflection?

2. Finite: Rational and Moderate Public Opinion Dissemination

The Steemit website is a high-quality content creation and sharing network platform, which effectively applies blockchain technology in the daily operation of the platform to arouse users' original contents. Therefore, the author takes steemit website as an example, explores the dissemination paths of online public opinion information in the blockchain environment, and summarizes its dissemination characteristics and rules.

2.1. Miners: Supervisors of Contractual Rationality

The audience, as the consumer of information, will have the default contract relationship in the process of trading with the media; the unwritten contract requires the audience to pay attention and the media to provide true and effective information of equal value. But this is not always the case. Affected by the relationship of interest, the media will provide false information to gain attention in order to gain more attention from the audience.

The traditional information dissemination process is usually considered to be composed of six basic elements: information source, disseminator, receiver, message, medium and feedback. On this basis, by combining the characteristics of the blockchain system, the author believes that the public opinion information dissemination elements in the Steemit network should include information producer, disintegrator, disseminator, receiver, and miner. Miner is people or machine that tries to create information blocks and add them to the blockchain system, they provide guarantee for the information dissemination in the blockchain and are the key to the continuous and normal operation of the blockchain public opinion network.

Assuming that users A, B, C, and D in the Steemit network are social friends with each other, when A publishes a message, A is the disseminator of public opinion at this time, and C and D do not forward this message and become temporary immune of public opinion. B forwards this message and become the receiver and disseminator of this message. At this time, C and D receive the second dissemination of this information and can again decide whether to forward this information. In the above-mentioned dissemination process, the producer of public opinion information releases text, pictures, videos and other information, decomposes and transmits the information, moreover, acts as an information receiver and obtain other information; when the information transmitter receives public opinion information from others, he can choose to forward and share information. The biggest difference from traditional public opinion information dissemination is that during the entire dissemination process, miners must participate in the whole process, encrypt, verify, broadcast and store the production source and transmission path of each piece of information. Miners have become the important role in supervising the intangible contractual relationship between the parties and protecting the rights and interests of the audience.

2.2. Benefits: Contract Maintenance of Moderate Speculation

The combination of blockchain technology and economic logic is a major advantage of the Steemit website, this platform encourages users to publish original works, user-produced contents are stored in the public blockchain in the form that is permanently preserved and cannot be modified, this platform uses steem tokens (virtual currency) conduct rewards, so promote the production and dissemination of original high-quality information. Every user on the Steemit website has reputation value and chance to obtain token rewards, posting, commenting, and forwarding will receive corresponding tokens and reputation value rewards; for more tokens and reputation value, users will try their best to choose high-quality information when publishing and forwarding information. Moreover, if the information is

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confirmed to be fake or bad information later, the information publisher and related users who forward comments will be deducted tokens and reputation value. Using the users' token revenue and reputation value indirectly achieves the maintenance of the dissemination contract, users will be more cautious in the forwarding information. The "content cannot be arbitrarily tampered and distributed ledger" characteristics of blockchain technology make the information posted by users on social networking sites not arbitrarily alterable, and can be traced back to the overall transmission path of the information. The disseminator can roughly judge the credibility of the information source before disseminating the information, and make cautious decision on whether to forward it or not, and avoid the occurrence of random forwarding. The economist Arrow once put forward the "bounded rationality" principle; bounded rationality is rationality under certain restrictions between complete rationality and incomplete rationality. Barnard proposed the concept of "bounded rational man" based on this principle. This concept is also applied to social networking sites, and it is widespread. Driven by the token incentive mechanism, users have different attitudes towards the same information in different periods. For example, the above-mentioned user C, when receiving the information posted by A for the first time, accepts but does not forward it, follows the comments and forwarding behavior of other users, when C receives the information for the second time (B forwards information posted by A), due to profit considerations, the public opinion information is likely to be forwarded. Therefore, there will be a Matthew effect in the platform where high-quality information continues to expand.

3. Infinite: Positive and Equal Dissemination of Public Opinion

By comparing the information dissemination of traditional social networking sites, the social media public opinion dissemination model from the perspective of blockchain technology has the following advantages:

3.1. Positive Drive: Equal Benefits

The users' own dissemination behavior is the biggest difference between traditional information dissemination and the information dissemination mode under blockchain technology, and the dissemination contract spirit on top of economic benefits is stronger. First of all, comparing traditional social networking sites that "everyone speaks" and have tens of thousands of reposts, in the blockchain public opinion dissemination network, there are fewer users participating in the production and reposting of public opinion information, and the dissemination behaviors are more rational, and the forwarding behavior only occurs in reliable and valuable information. The false information released by users on the network will be recorded by the blockchain and extended to the real world, affect their real credit, and the cost of spreading rumors is too high. As a result, the production and dissemination of false information are curbed, high-quality contents are highlighted, and the ecological environment of public opinion are eliminated and reconstructed. Secondly, a major feature of the blockchain public opinion network is that it can measure the value of public opinion information in the form of monetary measurement, and give or deduct a certain amount of tokens according to the authenticity of the information forwarded by users. Public opinion network users are more enthusiastic about the production and forwarding of public opinion information after determining the authenticity of their information due to consideration of expected benefits. High-quality information sharing make users in the blockchain public opinion network have a better information consumption experience. The forwarding behaviors based on economic interests are more enthusiastic, and the forwarding behaviors become more rational due to concerns about the loss of income.

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3.2. Equal Bearing: Decentralization

As a key element of the information dissemination process in the blockchain public opinion network, miner is the core practitioner of the decentralization of blockchain technology and supervising dissemination contract, which plays a vital role in the system. Whether it is information production or decomposition and dissemination, it must be encrypted, verified, stored and broadcasted by miners before entering into the next link of information transmission. It is precisely because of this that the dissemination of public opinion information is slow, and the process of dissemination changes from quantity to quality takes longer. In the process of blockchain public opinion network dissemination, there is no obvious central node, and the rights and obligations among nodes are almost equal. The "distributed storage" feature makes it possible to modify the data of a single node without affecting the overall data of the blockchain. It is generally believed that most information dissemination networks on the Internet belong to small-world networks. From the characteristics of the above-mentioned blockchain public opinion network, it can be seen that there is big differences with the information dissemination of the traditional small world network. According to the definition of a scale-free network, its typical characteristics follow the Pareto law; very few key nodes in the network are connected to most nodes, while most of the remaining nodes are connected to a few nodes. The existence of key nodes makes the scale-free network have a strong bearing capacity to unexpected failures. Based on this, it is speculated that the blockchain public opinion network is a scale-free network similar to the dissemination of public opinion on WeChat Official Account. The final result needs to be verified by data.

4. Limited-infinite: Conflict between Technology and Contract

Although blockchain technology can lay a solid "trust" foundation and create a reliable "cooperation" mechanism. However, if it is used improperly, it will promote the outbreak or evolution of public opinion events to a certain extent, and alienate will spread the spirit of dissemination contract, this change will increase the uncertainty of the development of public opinion events.

4.1. Position Antagonism is Highlighted

The reasons for the outbreak of most public opinion events involve the interests and appeal expression o of the people, and their causes and development are directly related to the attitudes of the people. The book "Social Psychology" mentions that in how positions and attitudes are affected by the presentation of relevant evidence, detailed presentations of supporting and opposing views, attitudes, the effect is often not to make the truth clearer, instead, those who hold different positions and attitudes become more determined in their respective positions and attitudes. Due to the "not to be tampered arbitrarily." information feature of blockchain technology, evidence of mutually opposing attitudes can be presented in detail in public opinion events, the parties involved in the event will receive more and more evidence support, and the supporters of opposing attitudes will increase, as the position becomes firmer and firmer, public opinion events may be intensified.

4.2. The Inhibitory Effect Needs to be Studied

The "traceability" feature of blockchain technology makes users easily obtain the credibility of the source. For the news in the outbreak of public opinion events, users can verify the authenticity of the information by tracing the information source, and the government and other official departments can also invoke high-confidence information in the blockchain to guide public opinion. Therefore, blockchain technology can effectively inhibit the spread of rumors in public opinion events, and thereby inhibiting the occurrence of secondary public opinions. Especially for those "change in form but not in content" repeatedly spread rumors,

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the effect is more significant. But inhibiting rumors does not mean completely preventing rumors. Because of its realism, rumors spread quickly and widely. Moreover, official responses to public opinion events need extremely high timeliness. Therefore, in order to prevent the outbreak of rumors in public opinion events, it is necessary to respond as soon as possible and publish the evidence. However, the shortcomings of poor timeliness of the blockchain conflict with the requirements of high timeliness. Because each piece of information in the blockchain system requires operations such as encryption and verification by miners, this leads to slow information updates. Obviously, this feature of blockchain will make it difficult to prevent the generation and spread of rumors in online public opinion events, blockchain technology can only inhibit but not completely prevent rumors in public opinion events.

4.3. Reaction of Past Events

In online public opinion events, information of old events often affects the outbreak and evolution of new public opinion events. Its impact is mainly divided into two categories: first, the old events as a whole are used as framework for understanding current online public opinion events to have an impact; second, certain key information in old events is used as the information of a new network public opinion event to produce impact. In social networks based on blockchain technology, if the outbreak events are used as framework for understanding the current events, then this impact may intensify the event. The fundamental reason is that under the conditions of blockchain technology, the storage of information will be more durable, it causes any public opinion event to find the same type of old events as its self-constructed cognitive framework. Finally, the new public opinion events broke out more intensely due to the influence of past events. If the current online public opinion events take certain information that broke out in the past event as the details or facts of the current public opinion events, it may also increase the intensity of the events. The reason is that blockchain technology can completely preserve the information attributes of old events and anyone can easily retrospectively view. In general, the impact of old online public opinion events will be more complicated from the perspective of blockchain technology.

5. Conclusion

The public opinion dissemination network based on blockchain technology will affect the reform of sources and dissemination channels of public opinion in social platforms, moreover, blockchain technology can judge the nature of network information, screen rumors, and promote the improvement of the ecological environment of Internet public opinion. This topic deepens the application of blockchain technology in the field of online public opinion from the theoretical level; it can help the public opinion monitoring center and cyberspace public opinion governance to provide reference suggestions at the practical level; it is helpful for the government to reconstruct the online public opinion ecosystem which are guided by positive energy, main theme in the social network under the blockchain technology where there is no false public opinion information and users are more rational and enthusiastic. At present, the practical applications of blockchain technology are still more in the stage of theoretical exploration, and more practical tests are needed for its applications in public opinion networks. It is expected that blockchain technology can be used more widely in the process of public opinion dissemination soon.

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