

## Research Article

# Disease Information Dissemination Prevention and Risk Management Methods in the Blockchain Environment

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Received 23 March 2022; Revised 13 May 2022; Accepted 16 May 2022; Published 6 June 2022

Academic Editor: Wen-Tsao Pan

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With the advancement of technology and the arrival of the era of integrated media, big data, artificial intelligence, cloud computing, and virtual reality are gradually changing the ecology of public opinion. This will bring new challenges to the technical discovery, data analysis, and response of network disease dissemination to public opinion. Internet data barriers are still widespread. The specific requirements are to explore the application mode of blockchain technology to bring a better service experience to the people. Therefore, this paper focuses on the dissemination of disease public opinion information and risk management research in the blockchain environment. Furthermore, the application of advanced blockchain technology is used to seek breakthroughs in the field of risk management of network disease transmission and public opinion in terms of technology and data. This paper systematically sorts out the research results of domestic and foreign disease transmission network public opinion, public opinion risk management, and blockchain through comprehensive use of literature analysis, grounded research, empirical research, simulation research, and other research methods. Based on theories of the disease transmission network, public opinion, risk management, blockchain, and system dynamics, we conduct research on network public opinion and risk management of disease transmission in the block chain environment. At the theoretical level, the research in this paper can promote the risk management of disease transmission network public opinion in the blockchain environment and carry out the construction of the theoretical system to deepen the application of blockchain technology in the field of disease public opinion risk management. At the practical level, the research in this paper can guide the improvement of the effect of public opinion risk management. Then, blockchain technology is applied to manage the risk of disease public opinion. In future research, the theory of public opinion risk management will be further enriched. We will apply blockchain technology to develop the evolution of the risk of disease public opinion transmission, carry out research on public opinion management and other aspects, and at the same time, try the design and development of a blockchain public opinion system. In this way, the innovation of blockchain in the development and application of disease network public opinion research will be promoted.

## 1. Introduction

Block chain first appeared as an important concept of Bitcoin. Blockchain is essentially a decentralized database. As the underlying technology of Bitcoin, each data block contains a batch of Bitcoin network transaction information. It is used to verify the validity of its information and generate the next block on this basis. The blockchain is combined with the public opinion on disease transmission. It is an important research direction and research topic in the context

of the Internet era. The influencing factors and effect models of public opinion on disease transmission in the blockchain environment are very important [1–3]. It is a good idea in the research analysis of the subject. Blockchain was created by researchers as early as 1991. Since 2008, the term “blockchain” has gradually sprung up from theoretical papers. And it has been perfected in many fields and has taken root in the minds of the public. Whether it is in academic, financial, political, and other fields, or in games, medical care, value protection, etc., blockchain plays an important

role. Specifically, the blockchain technology led by BTC is a technology based on digital cryptocurrencies [4–7].

The block chain 2.0 platform based on smart contracts has been further developed. Today, technological development has ushered in more new “block chain+” applications. The application scenarios of block chain technology are gradually expanding. In cultural life, game practitioners develop various games based on block chain [8–11]. The main goal of risk management is to dispose of and control risks and to prevent and reduce losses. In order to ensure the smooth progress of company operations and social and various activities. Through risk management, enterprises can obtain higher security. Risk management is a systematic project. The key requirement is that entities should identify and assess risks. The reduction of the disadvantages of traditional games with a relatively higher degree of centralization has provided a good remedy for the game field. In medical and health care, the block chain will upload private data involving medicines, documents, etc., to the chain. It is convenient to protect information security [12–15]. This provides a new type of weapon for the supervision of the pharmaceutical industry. This, in turn, creates a strong shield for patient privacy. In the financial economy, decentralized digital cryptocurrencies (digital encrypted assets) emerge in an endless stream. Facilitate the flow of value between human societies. On the issue of resolving social conflicts, the United Nations has also made corresponding explorations and then hope to provide help to mankind through the use of block chain technology. This also involves technology, production, safety, logistics, and other aspects. This requires a consensus on the objectives of risk management subjects. At the same time, the objective of risk management is required to be achievable. When choosing a plan, it is possible to objectively evaluate the objectives of risk management. It also requires a certain level of management objectives. In March 2018, China’s Ministry of Industry and Information Technology released information proposing standards to promote the establishment of a national integrated management of information and industrialization. China further standardizes block chain and distributed ledger technology. Block chain has become a thriving idea and technology today. Some say it brings a currency. Some say it brings a structural revolution. Some studies also believe that this involves the division of labor in the future society. The focus is to discuss solutions to production relations problems.

Currently, the data generated by the Internet every day is stored in terabytes. At present, by recording data, platforms such as Weibo and forums have become the main platforms for disease dissemination and public opinion. In order to carry forward the Chinese spirit and correctly guide the positive thinking of the people. This, in turn, creates a healthier online discussion environment. It is imperative to focus on the model of the public opinion effect of disease transmission in the block chain environment. Today’s society is inseparable from the Internet, and the communication between people, the processing of daily affairs, and the acquisition of relevant information are also inseparable from the Internet [4, 16–18].

The phrase “there is no national security without cybersecurity” is very important, and news spreads extremely fast on the Internet. The source of information is very secretive, and some deceptive online remarks can easily affect people’s perception of something. Thereby distinguishing the effect of risk management. The specific objectives of risk management can be divided into preloss objectives and postloss objectives. The preloss target must satisfy economic rationality. Risk managers should conduct a comparative analysis of risks before losses occur. This leads to people’s misunderstanding. People are sometimes more easily instigated by some public opinions and some one-sided views. As a result, the spread of some negative public opinions is very slow. In turn, it will have an impact on the harmonious development of the entire society, the country, and even the entire human being. However, the information on the network is also characterized by a huge amount of data. There is a huge amount of information hidden in the massive data waiting to be mined. Therefore, a good public opinion analysis system for disease transmission is necessary. It can crawl some sensitive words and inappropriate speeches on the Internet. And then use the appropriate algorithm to analyze the captured data, mining valuable information from data analysis. In addition, the research monitors and analyzes public opinion in the network [19–22], thereby ensuring the cleanliness of the network environment and maintain a good network order. It enables the network to develop in the direction of healthy growth. Large countries and small individuals are actively exploring the application of block chain technology. From the discussion on the application of block chain technology in the country, the value of block chain technology is revealed. It will inevitably leave its own contribution in the evolution of society and the advancement of history. In such a promising research and application environment, this paper develops a block chain based public opinion system for disease transmission. It conducts a comprehensive analysis of risk disposal tools and security techniques and ensures that the cost of risk management is reasonable and economical. The establishment of the preloss target should first consider the safety factor of the system. Within the acceptable range, the risk may cause property damage and bring psychological anxiety and fear. This caused everyone’s enthusiasm to suffer, resulting in low production efficiency. Therefore, it is necessary to improve safety awareness and prevent risks. We must pay attention to the responsibility goal of social development. This system is an important attempt to combine emerging technologies with real-world application scenarios. Block chain technology provides decentralization and trustless support for information systems. This support is a new type of architecture that is immutable and traceable. Among them, different data are jointly owned and supervised by all nodes on the network [18, 23–25]. By maintaining some nodes, it is free from the control of any single node. Because the data is stored in a distributed manner. Even if the storage in a node is mishandled or hacked, it will not have much impact. The system can repair data by interacting with other nodes. Unless the attacker breaks most of the nodes in the entire network at the same time,

data tampering cannot be achieved by attacking a small number of nodes. This approach reinforces the true effectiveness of the Internet. At the same time, this paper can use the multichain structure to rank the nodes in the network. Grant nodes at different levels have different rights to access data [26, 27]. With the popularity of the Internet and mobile Internet in society, many social tools have entered people's daily life. The Internet has increasingly become a platform for people to communicate about social issues. As the main front for the spread of public opinion about the disease, the state attaches great importance to Internet security. The state emphasizes the need to build a comprehensive network response supervision system with Chinese characteristics. The implementation of risk management also bears the relevant responsibilities. Subject to relevant policies and laws and regulations. Once the risk subject suffers losses, a series of members will suffer losses. Therefore, the significance of risk management is to reduce the impact of risks on relevant personnel and eliminate hidden dangers of risk losses as much as possible. Even with a sound risk management plan in place, it is impossible to completely avoid risk. The management of public opinion on disease transmission is also a hot research topic. Public opinion generally refers to the attitude and public opinion of the general public about social public sentiment and public opinion. Compared with traditional public opinion and new media public opinion, block chain public opinion has many differences. The research framework of this paper is shown in Figure 1.

The research framework of the network communication mechanism in the block chain environment involves four levels, including the underlying foundation of the block chain itself, the connection relationship, the element system designed in the block chain environment, and the influence mechanism of Internet communication in the block chain environment.

## 2. The Review of Research on Dissemination of Disease Transmission in Block Chain Environment

Generally speaking, it has the characteristics of compounding the main body of communication, flattening the network, and immutability of data. Internet public opinion spam is gradually decreasing, and the spread of false public opinion is slowing down. This makes us adopt a more reasonable and adaptable method and structure to analyze the public opinion of disease transmission in the block chain.

*2.1. The Application of Blockchain Technology Development in Various Industries.* The public opinion of disease spread in other networks is discussed separately. It can be seen by browsing relevant domestic and foreign literature that scholars have conducted different aspects and different levels of analysis and research on the public opinion of disease transmission through different research methods. Among them, the main application of big data technology is to collect data on political and people's livelihood topics in the

mobile environment. Therefore, postloss risk management objectives need to be formulated. The core goal is to maintain the goal of survival first and foremost. The first prerequisite for achieving this goal is to ensure that you can withstand losses and be adequately prepared. It is also necessary to be able to maintain normal production and business activities after suffering losses. No production stops due to loss. In this process, it is also necessary to continuously implement the plan. These implementations enable risk subjects to operate normally. Finally, it is also necessary to perform social responsibilities, which is also an important basis for the establishment of the image of risk subjects. Research on the transmission mechanism, characteristics, and models of public opinion on complex disease transmission. Such research is the hotspot and mainstream trend of domestic block chain public opinion research. Therefore, it is of great theoretical significance to study the influencing factors of public opinion on disease transmission in the block chain environment. The model research framework is shown in Figure 2.

The application framework of the existing framework system in the related research includes five levels. From the perspective of the object of this framework, it includes all aspects of Maslow's hierarchy of needs, including self-basic demand satisfaction, self-demand satisfaction, self-cognitive satisfaction, self-material level satisfaction, and self-spiritual level satisfaction. This paper focuses on the frontier development direction of block chain, especially the research trend in the field of management. It is different from the previous development trend of block chain. The research starts from the perspective of different fields and conducts new discussions. At present, although there are many fields involved in the block chain, they are basically biased towards those fields that have matured. Therefore, this paper hopes to combine those fields with less research on block chain. Following the existing research path, this paper will also combine previous research to discuss the application basis of block chain technology. It is beneficial to the follow-up extension research in the field of block chain. For researchers, this is a new direction. For enterprises, governments, and disease public opinion risk management departments, they have all made great efforts for the management of public opinion. At present, society needs to face the block chain media environment and the dilemma of disease transmission network public opinion risk management. We have more problems to solve. The first is the scientific issue of risk management of public opinion on media-based diseases.

*2.2. Application of Blockchain Environment in Disease Network Public Opinion Management.* The second is the technical means of disease public opinion risk management and finally, netizens' acceptance of disease public opinion risk management. Public opinion risk management departments at all levels should try their best to listen to public opinion. Risk management is the application of general management principles to manage an organization's resources and activities. At the same time, it reduces the risk of loss as much

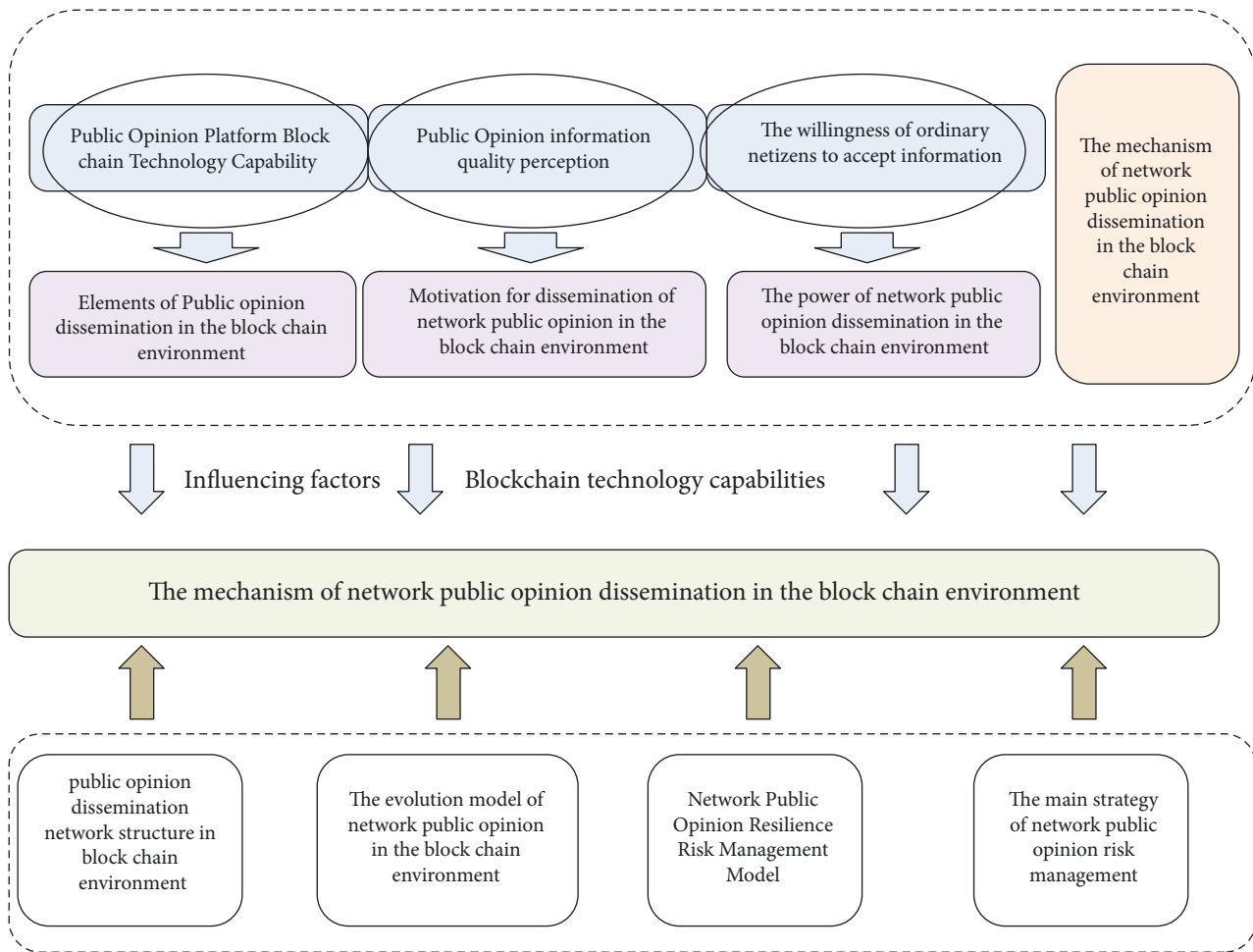


FIGURE 1: Mechanism research framework of network dissemination in block chain environment.

as possible at a reasonable cost. This adversely affects its environment. The process of risk management is as follows: The first is risk identification. Specifically, it refers to identifying risk factors and defining their characteristics in a specific system. Risk identification is the starting point and an important component of risk management. In the process of responding to public opinion, the government uses words that netizens can accept and understand to guide. However, there are still some netizens who emphasize the so-called freedom of speech. It is difficult to achieve a practical inner balance between freedom of speech and legal regulation. Some netizens even published false news for grandstanding. In order to demonstrate their ability to control information, they publish damaging and false information at will. Screen names gain attention, increase fans, and gain economic benefits. Therefore, it is very important to study the public opinion theory of disease transmission in the block chain environment. It is of great practical significance to study the risk management strategy of disease public opinion network transmission in the block chain environment.

*2.3. The Role of Public Opinion Network Platforms in Disease Control.* Specifically, it is very important that the current

research can promote the construction of a theoretical system of risk management of disease public opinion network transmission in the block chain environment. This helps to deepen the application of block chain technology in the field of disease public opinion risk management. This paper analyzes the influencing factors of block chain disease public opinion risk management. We analyze the mechanism of block chain technology in the adoption of public opinion information. Identify the risks faced by the enterprise through risk identification. This in turn determines the nature of the risk, then analyzes the possible losses, and further clarifies the sector where the risk losses are located. The second is risk estimation. It is the process of quantitatively calculating the size of the risk loss in a specific system. This process analyzes the probability and likelihood of specific risks occurring. At the same time, we also need to analyze the possible losses and consequences under specific risk factors. We research the network structure of public opinion dissemination in the block chain environment. Then we summarize the evolution law and characteristics of public opinion in the block chain environment. It helps us to build a risk management system for disease public opinion network dissemination in the block chain environment. The risk of disease public opinion network transmission in the

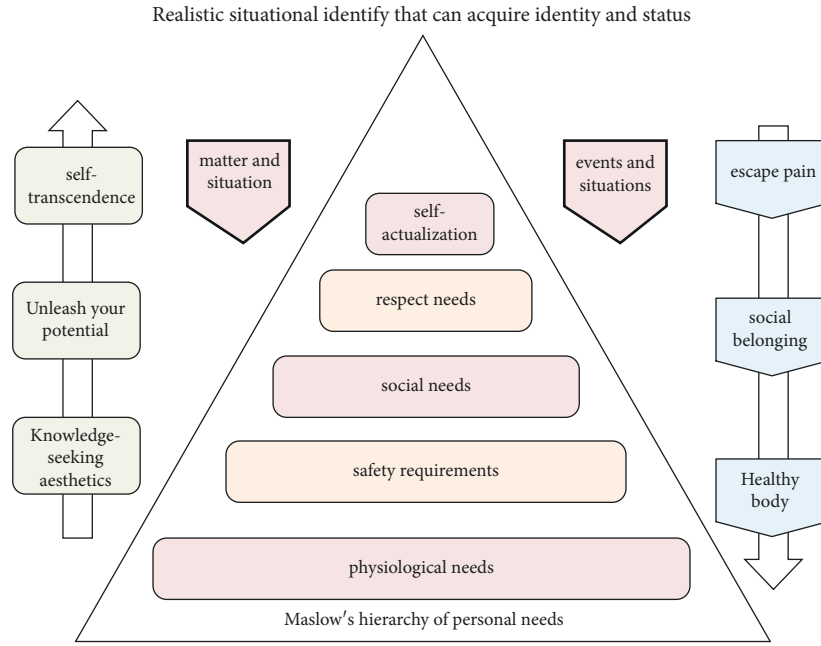


FIGURE 2: The overall framework of risk perception that can acquire identity status.

block chain environment is analyzed. The main influencing factors of disease public opinion spread in block chain environment are shown in Figure 3.

This article sorts out the specific functional factors in the block chain environment, involving the basic theoretical system of the block chain, the information selection system of the block chain, the technological application system of the block chain, and the application of the block chain in the dissemination of disease information.

### 3. The Impact of Blockchain on the Spread of Disease Public Opinion

In the research on the integrity of the management theory system, the research conclusion has played a driving role. Block chain technology has a positive effect on the adoption of public opinion information by ordinary netizens. The system stores public opinion information data and uses smart contracts to build a risk management system for disease public opinion. Using intelligent classification and risk correlation technology, the whole process of public opinion can be monitored.

*3.1. Construction of Block Chain Public Opinion Influencing Factor Model Based on Grounded Theory.* The structured processing of public opinion data improves disease public opinion risk management efficiency by means of advanced block chain and smart contract technology. The purpose is to spread disease public opinion networks based on smart contracts guaranteed by intelligent risk management to implement engineering strategies taking the smart contract-based disease public opinion risk management strategy as the starting point. Finally, the purpose is to improve the risk management effect of disease public opinion network

transmission in the block chain environment. This paper comprehensively constructs a risk management strategy model for the spread of disease public opinion networks in the block chain environment.

It is said that we have a set of subjects  $N = \{i = 1, 2, \dots, n\}$ .  $S$  is a subset of  $N$ , which represents the cooperative alliance that may be formed between the subjects.

$$\begin{cases} V(\phi_i) = 0, \\ V(S_1 \cup S_2) \geq V(S_1) + V(S_2), S_1 \cap S_2 = \phi_i, \end{cases} \quad (1)$$

$$\phi_i = \sum W(|S|)[V(S) - V(S/i)],$$

$$W(|S|) = \frac{(n - |S|)! (|S| - 1)!}{n!}.$$

The results of the study will help to broaden the practical effect of advanced technology in disease public opinion risk management and improve the depth and breadth of system applications. Through the system to effectively track negative public opinion information, find the source of illegal information release.

Coverage index calculates the ratio of predicted items to all unscored items to measure the comprehensiveness of prediction. Assuming that  $h$  items are predicted, the calculation method of coverage is as follows:

$$Cov = \frac{h}{n}. \quad (2)$$

Recall index is also used to evaluate the system effectively in the field of information retrieval. The larger the Recall value is, the better the recommendation quality of the algorithm is.

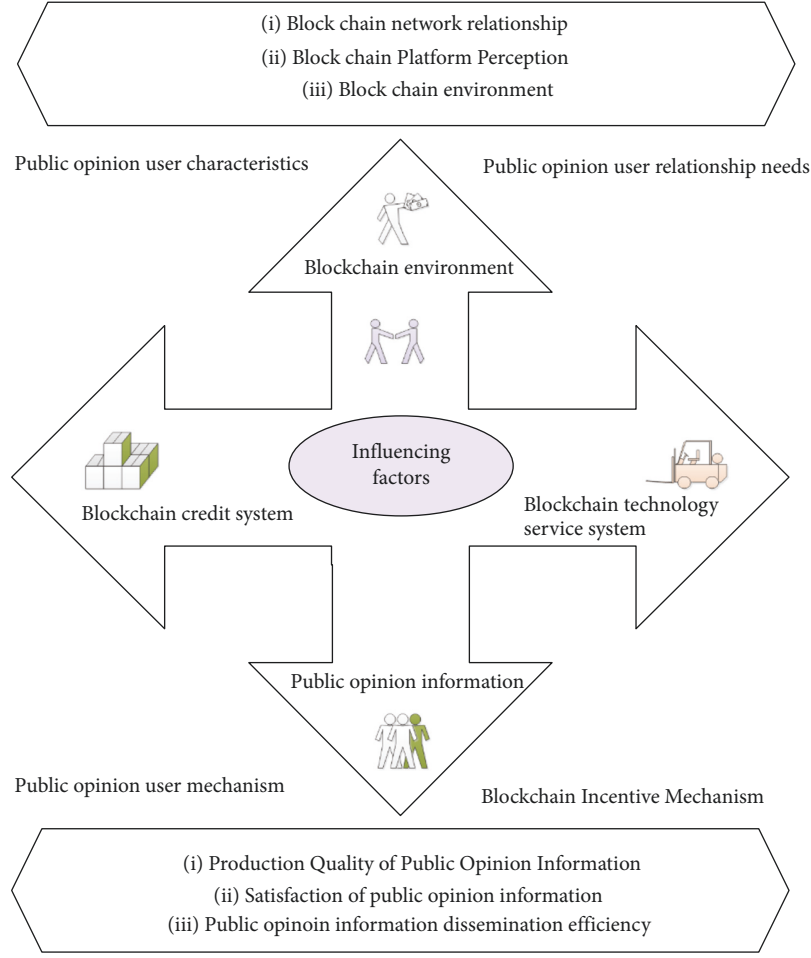


FIGURE 3: Model of influencing factors of disease public opinion spread in block chain environment.

$$\begin{aligned} \text{recall} &= \frac{\text{Hits}}{|\text{test}|} \\ &= \frac{|\text{test} \cap \text{Top} - N|}{|\text{test}|}. \end{aligned} \quad (3)$$

In order to verify the clustering effect of user attributes, the contour coefficient  $S$  is used to evaluate the clustering result, and the specific expression is as follows:

$$S(i) = \frac{b(i) - a(i)}{\max\{a(i), b(i)\}}. \quad (4)$$

Constructing a mathematical model for quantifying quantitative attributes For the dimensionless value  $v'_c$  of attribute  $c_j$ , it can be expressed as follows:

$$v'_j = \begin{cases} 1, & v_j \leq v_{\min j}, \\ \frac{v_{\max} - v_j}{v_{\max j} - v_{\min j}}, & v_{\min j} < v_j < v_{\max j}, \\ 0, & v_j \geq v_{\max j}. \end{cases} \quad (5)$$

As a generalization of the ordinary linear model, GLM introduces a connection function in the model in order to fit some nonlinear relationships. The model can be expressed as follows:

$$g(\xi) = g(\sigma) + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_n X_n, \quad (6)$$

where  $g(\sigma)$  is the connection function,  $\sigma = E(Y)$ .

$$g(\xi) = a + f_1(X_1) + f_2(X_2) + \cdots + f_n(X_n). \quad (7)$$

The function of the forgetting gate is to determine the part discarded from the input information  $h_{t-1}$  and  $x_t$ , and output a value between 0 and 1. The larger the value is, the more information is retained. The output of the forgetting gate is calculated as follows:

$$\begin{aligned} f_t &= \sigma(W_f \cdot [h_{t-1}, x_t] + b_f), \\ i_t &= \sigma(W_i \cdot [h_{t-1}, x_t] + b_i), \\ C'_t &= \tanh(W_C \cdot [h_{t-1}, x_t] + b_C). \end{aligned} \quad (8)$$

The system conducts a comprehensive and in-depth analysis of the collected public opinion information. It is convenient for the system to manage the risk of disease public opinion. The system needs to effectively collect public

opinion information from the public and then establish a public opinion response plan to guide the digestion of negative public opinion information. The government maintains a good government image by using the Internet. The system needs to clarify the release mechanism of public opinion information and establish an effective public opinion management system. Finally, system construction is conducive to creating applications of block chain technology. The last is risk assessment. Mainly after the risk estimation, it is judged whether the risk can be borne by the public. Then it is determined whether further measures are required. Further analysis of risk decisions: Specifically, it is the process of minimizing systemic risk at the lowest cost based on the results of the risk assessment. Risk monitoring: This includes tracking risks and identifying existing and residual risks. On this basis, analyze the implementation response methods and plan and evaluate the follow-up response measures. The system is effectively applied in the field of disease public opinion risk management. This article uses block chain technology to build a public opinion system. With the help of coordinated support and encouragement between relevant national departments, we further increase the application of block chain technology through continuous efforts to form a benign block chain technology application scenario. The system guides relevant departments and enterprises to manage information, develops a disease public opinion risk management system based on block chain technology, and then implements the disease public opinion risk management project based on smart contracts. Systematic research helps to promote the innovation of block chain technology in the field of public opinion management practice. The system provides efficient disease public opinion risk management tools. Model analysis results are shown in Figure 4.

This paper elaborates the results of the above model analysis in detail. The application of block chain technology can strengthen the interaction between public opinion managers and netizens. The system can focus on responding to the information that netizens are concerned about. This paper applies block chain technology to the risk management of disease public opinion network transmission. The system can fully realize traceability and tracking, thereby combating online rumors and recording public opinion dissemination data through all nodes of the system.

The research in this paper improves the management effect of disease public opinion risk. It pointed out the direction for the risk management of disease public opinion. At the practical level, the research in this paper can guide the improvement of the effect of disease public opinion risk management. It points out the direction for the application of block chain technology to develop a disease public opinion risk management system. System operation can improve the scientificity and predictability of disease public opinion risk management. Structural processing of public opinion data. The analysis results can effectively improve the efficiency and pertinence of disease public opinion risk management. In addition, the system can improve the advanced nature of disease public opinion risk management technology. Model analysis results are shown in Figure 5.

This paper elaborates on the results of the above model analysis in detail. With the advent and popularization of computers, human society has entered the media age. On the positive side, the media is conducive to balancing public opinion supervision and judicial response mechanisms. On the negative side, fake news increases the pressure on the government and is not conducive to the establishment and improvement of the government's credibility. Therefore, the prevention and control of public opinion on disease transmission and the identification of laws are very important. International research on public opinion on disease transmission is earlier than in China. The Internet has the characteristics of openness, immediacy, and uncontrollability. Therefore, the spread of public opinion about the disease may cause contradictions among the subjects of public opinion. These contradictions are irreconcilable. This leads to the continuous expansion of public opinion conflicts. However, the existing problems still cannot be effectively solved. The spread of disease and public opinion will have an impact on society. In fact, this impact will also challenge the government's control and monopoly on the media. The research content of public opinion on disease transmission by international scholars includes the following aspects: (1) Research on the theory of public opinion on disease transmission. With the development of information technology, the focus of international scholars has turned to the development of public opinion theory of disease transmission. The sudden outbreak of public opinion on disease transmission is often caused by the untimely response to the incident. The government misguided public opinion on the spread of the disease. In the formation of public opinion on disease transmission, public opinion occupies a major position.

Due to the silence of some people resulting in the consistency of public opinion, it evolved into public opinion. In a specific public place, the collective behavior of all those involved in the discussion will generate a public opinion. Through refined identification and optimization, the system contributes to the risk management of the entire society. The media has an important influence on the reporting of public opinion on the spread of disease, a composite factor with similar exponential growth in the propagation process. Public opinion is influenced by external capacity constraints. The system can describe the dissemination trend of online news from the perspective of self-media. Model analysis results are shown in Figure 6.

*3.2. Analysis of Public Opinion Mechanism of Disease Spread in Block Chain Environment.* Internationally, scholars' research on public opinion management has gone through three stages: the first stage occurred in the middle of the 19th century, and the related research transitioned from the philosophical standard stage to the sociological research stage. In the second stage, in the early 20th century, related research was transformed from the sociological research stage to the psychological research stage. In the third stage, in the middle of the 20th century, the research entered the ontology stage of public opinion research and gradually

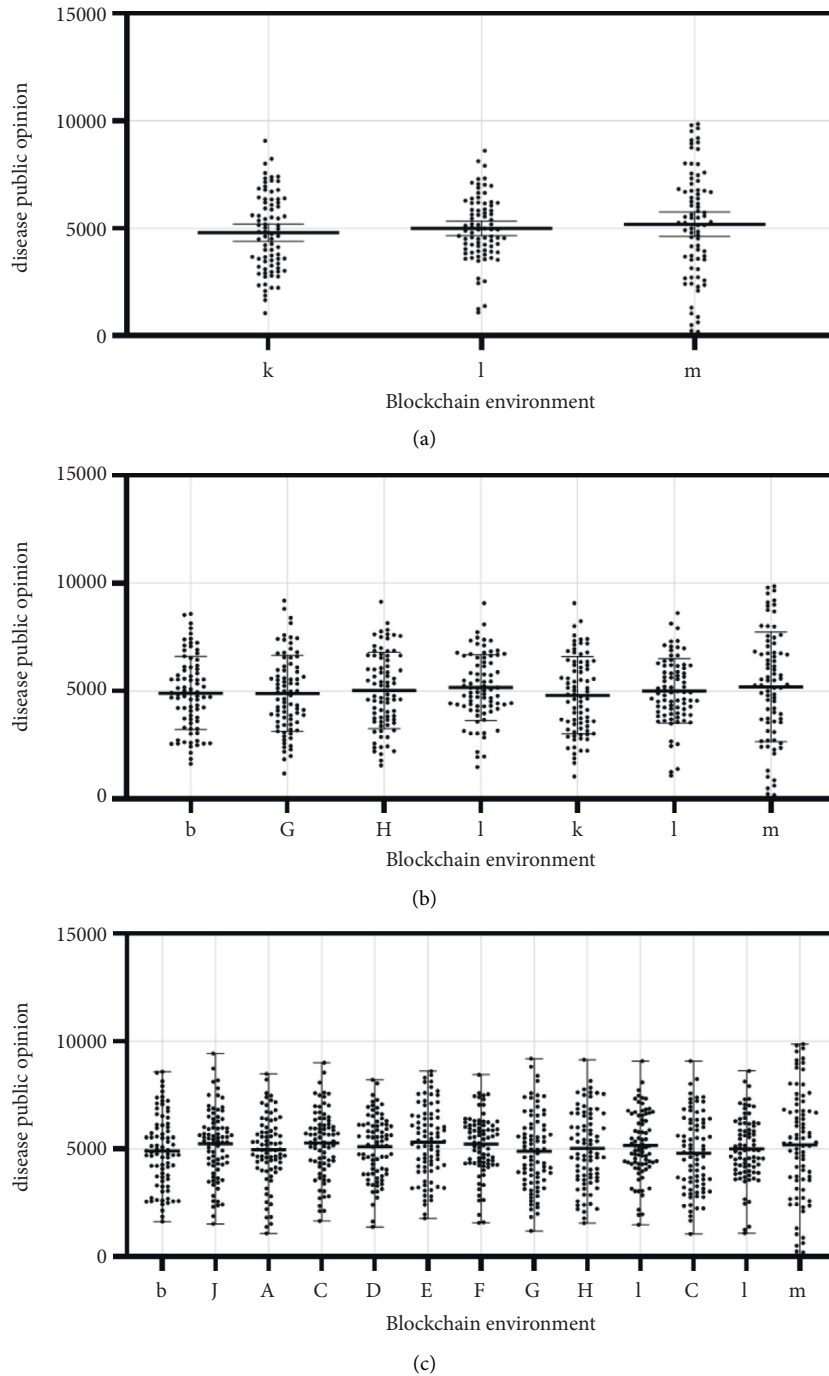


FIGURE 4: The design concept of disease public opinion risk management.

formed a number of research directions such as mass communication and political behavior research, social psychology and collective behavior research, and opinion and attitude research. In the process of public opinion management, the main research methods include literature analysis, public opinion survey, and analysis methods. In survey research, the system needs to select the appropriate survey method. All research cannot exist apart from reality. Otherwise, the conclusion will be difficult to hold and meaningless. Public opinion on disease transmission is a

behavior carried out around the occurrence, development, and change of various events in certain cyberspace. Netizens, who are the main body of public opinion, are stimulated by the constantly evolving environment of events. Their current emotions and attitudes are expressed through the Internet. In the era of block chain, the characteristics and process of public opinion on disease transmission have undergone further changes. Block chain public opinion network nodes are more diversified. Therefore, we must pay attention to the investigation and analysis of public opinion. The



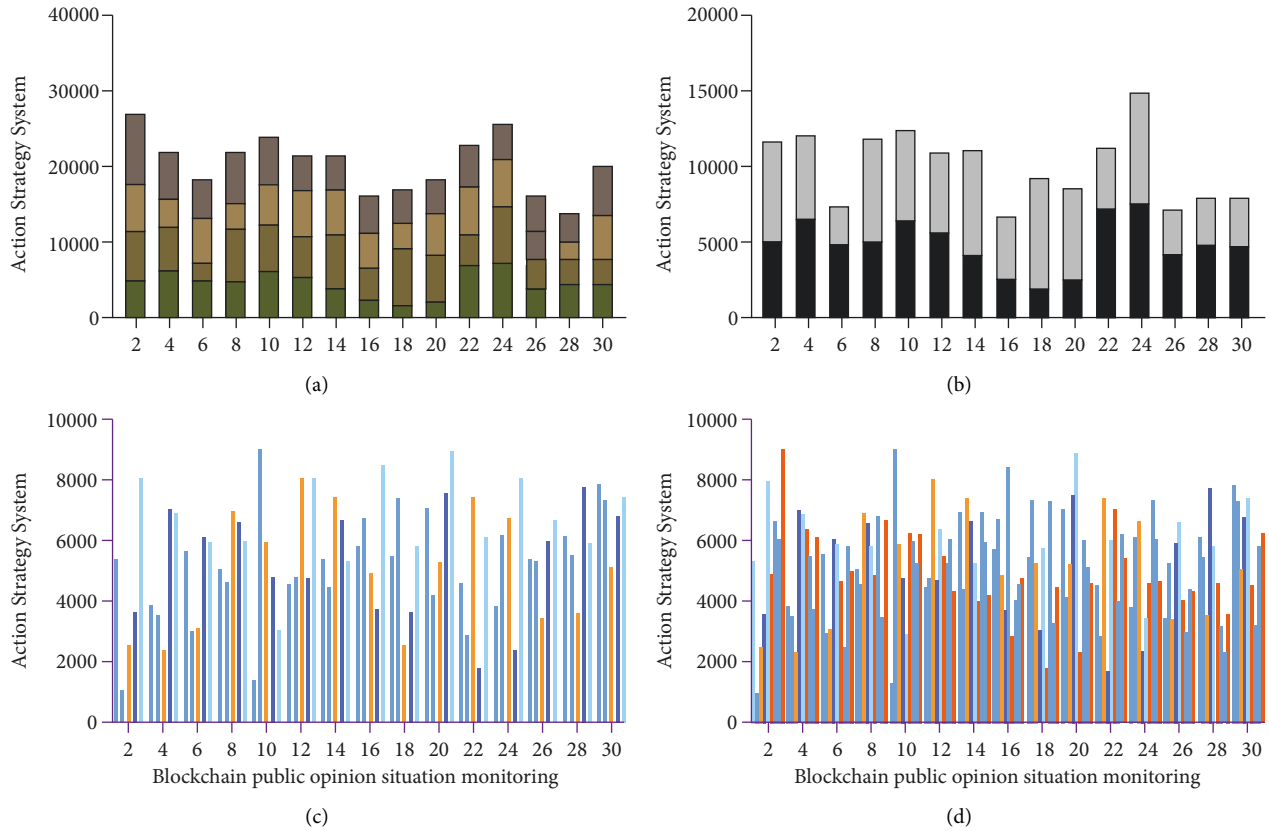


FIGURE 5: The main factors that determine the technical support project management strategy.

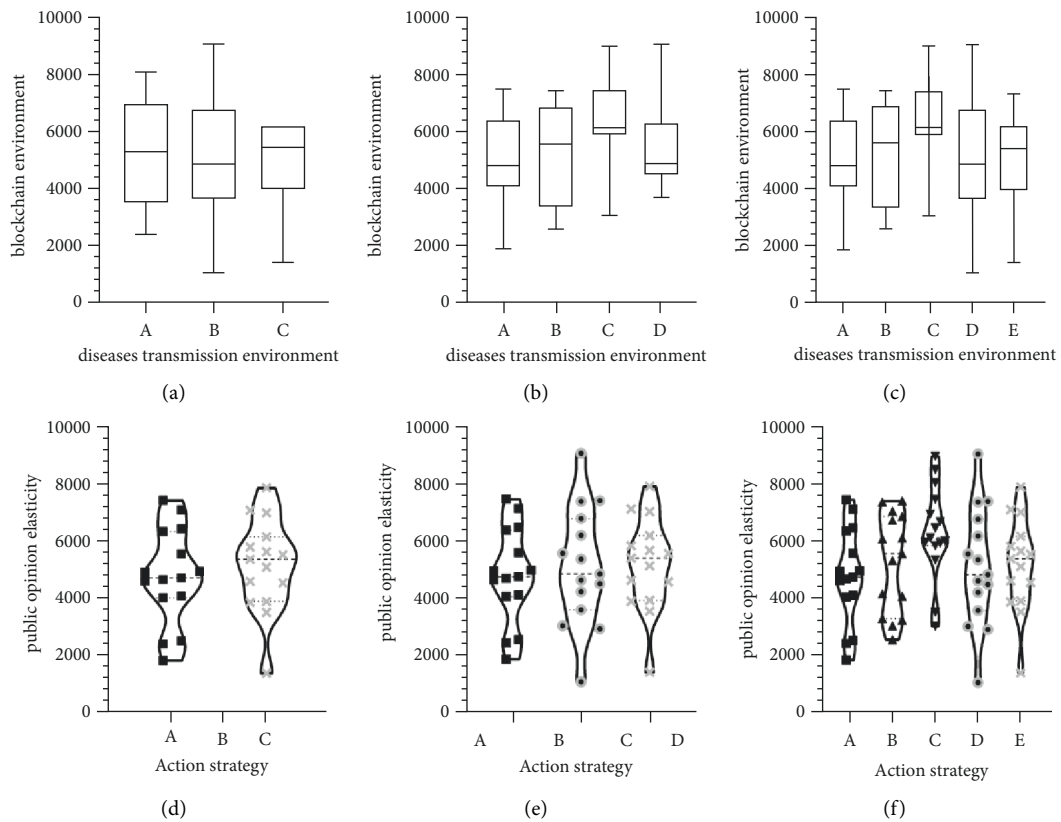


FIGURE 6: The main factors that determine public opinion risk identification project management strategy.

government should pay attention to the responsibilities that the government should assume in emergencies. The government must disseminate effective information in a timely manner and report the content truthfully. This method can be beneficial to the overall controllability of public opinion dissemination. If the response method is improper, the development of the incident will often be uncontrollable. Model analysis results are shown in Figure 7.

The research on public opinion and emotion of disease transmission. Everyone uploads resources and shares information through the system. Online opinion expression has become the main channel for public opinion expression. In the process of expressing opinions, the emotions of netizens are also shown. Emotion expresses the attitude of netizens towards things and is the direct judgment of netizens on events. Incorporate public opinion into decision-making where values conflict. This in turn elicits public opinion on these choices and uses machine learning methods to extract the principles. These principles can serve as a concise statement of the demands of selected netizens. Thus directing the behavior of autonomous systems. Public opinion on the spread of the disease can also influence the prediction of the rise and fall of stocks. The production cost of public opinion information is relatively high. Internet users' information consumption is more rational. The dissemination of public opinion information can also be traced throughout the process. It makes the production of spam information and the release of false information to be curbed to a certain extent. The traditional public opinion network structure generally includes four types: single-core type, single-link type, multicore type, and complex link type. In the block chain environment, the network structure of public opinion revolves around nodes, forming a variety of organizational construction modes. During the dissemination of block chain public opinion information, netizens consider more time and monetary costs. The study of individual investor sentiment is getting more and more attention. Most research has focused on the relationship between individual sentiment and market volatility. The time sensitivity of stock prices is important to the general sentiment of individual investors. They have a significant impact on stock prices. Foreign scholars and others use distributed web crawlers to obtain data. Specifically, they obtain opinion data from social networks. Through the natural language processing method, the sentiment index and institutional evaluation index are constructed. Use correlation analysis, regression analysis, and time series analysis, and other methods to sort out. The study found that fluctuations in stock prices are directly affected by personal emotions. Model analysis results are shown in Figure 8.

This paper elaborates on the results of the above model analysis in detail. The general sentiment of individual investors affects the movement of stock prices. Changes in stock prices are a good indicator of public opinion. However, there is a lot of discussion on online social networks. Participants often turn into groups of users with diametrically opposed opinions. Social robots can guide public opinion on the spread of disease. Manipulating public opinion in social media networks.

As an important external force, information can change the trend of public opinion evolution. The dissemination of information can also reverse the state of public opinion. The system needs to analyze information intensity, information release time, and countermeasures for different types of information. Disease transmission information is irrevocable and irrevocable, and the transmission of information becomes traceable. Data security and other aspects need further consideration. In the process of information production and consumption, it is more inclined to make rational and efficient dissemination of public opinion information. Producers of public opinion information pay more attention to ensuring the authenticity of information content before the information is released. On the one hand, it can increase the information value density and improve the quality of pictures and videos. The reception and processing of public opinion information by consumers can also be changed accordingly. The system decomposes and transmits risk information. The system further needs to find out the principle of public opinion reversal. By releasing information during the development of events, the orientation of public opinion can be changed or even reversed. However, different publishing methods will produce different public opinion evolution results. Model analysis results are shown in Figure 9.

*3.3. Research Framework on the Mechanism of Public Opinion of Block Chain Disease Spread.* The technology model and platform technology of disease transmission public opinion are also very important. In this field, the research of foreign scholars is mainly divided into two aspects. Research on technology models of public opinion on disease transmission and research on a technology platform for public opinion supervision on disease transmission. Foreign research on public opinion dissemination has obvious interdisciplinary characteristics. The representative point of view is that the point of view of computer science and communication is concentrated, combining network theory and computer simulation techniques. According to the theory of structural balance, the impact is carried out by changing the whole structural wrench in different communities, reconstructing social networks through connections between agents. This leads the public opinion of the joint community to develop in a predetermined direction. The dissemination of block chain public opinion information is more secure and credible. The dissemination of public opinion information in the block chain environment is not effective. These questions have attracted the attention of scholars all over the world. Driven by the development of the Internet and emerging technologies, the connotation of public opinion on disease transmission is also constantly changing. New media has a great influence on the spread of public opinion about the disease.

The netizens commented on emergencies spread. Negative public opinion topics and emergencies are also widely spread on the Internet. In the existing topic detection research, key topics mainly define events from the perspective of news media information flow. Around a specific public

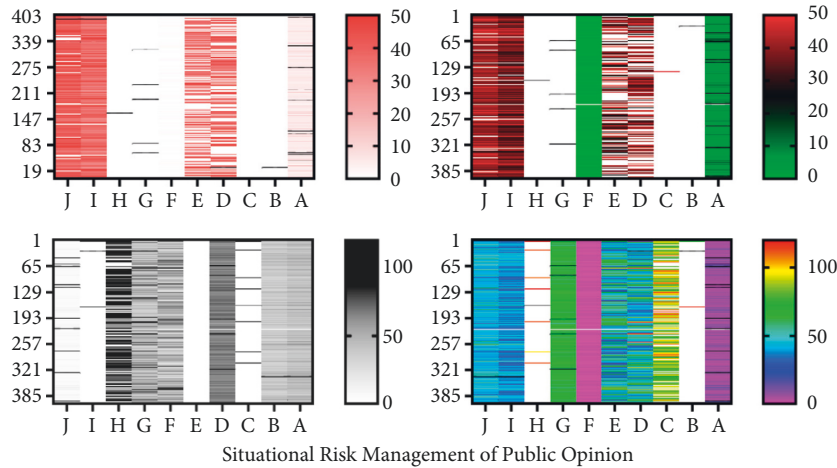


FIGURE 7: Block chain public opinion situation monitoring and resource analysis.

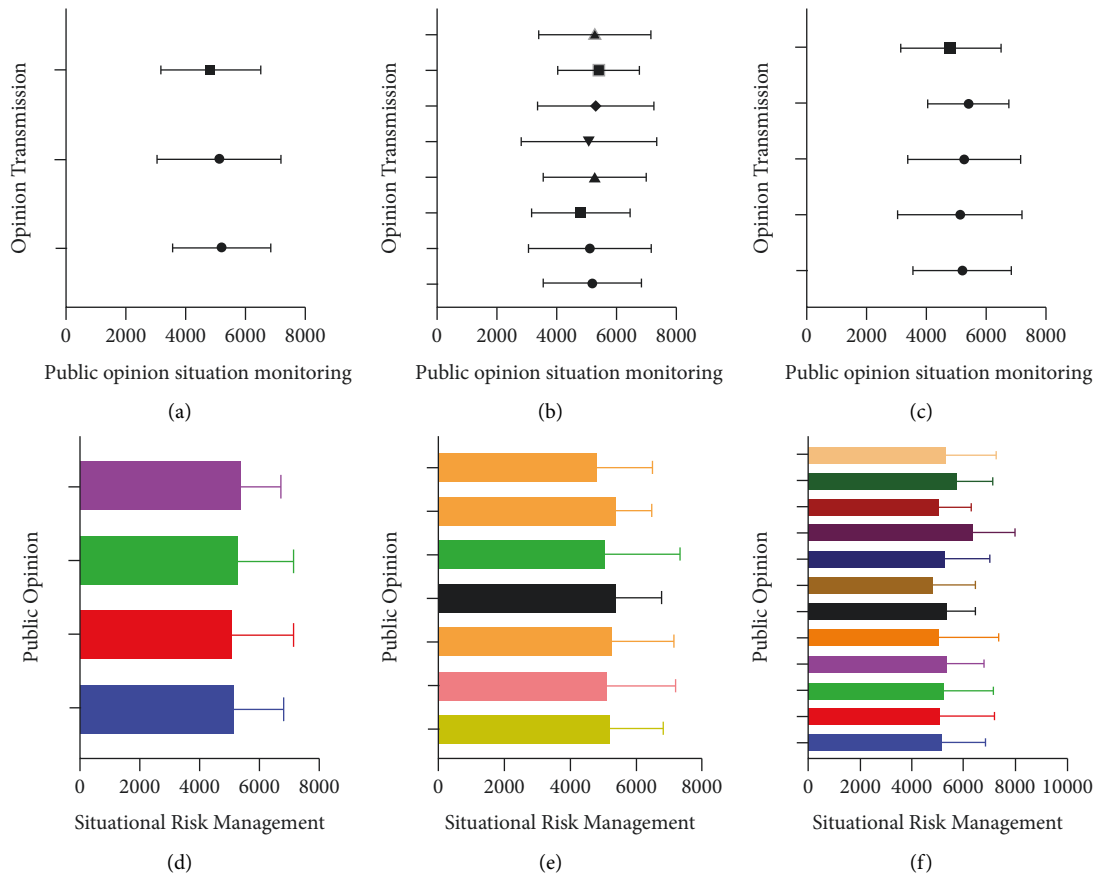


FIGURE 8: The results of block chain public opinion elasticity risk management system.

opinion event, there are often many different opinions or topics. Starting from the characteristics of “self-media” disease transmission public opinion elements, the detection of “self-media” disease transmission public opinion was studied. Domestic scholars define it as various activities carried out by netizens and the dissemination of various events with the help of mobile tools. The public opinion platform expresses various opinions on various events.

Drawing on the definition of new media public opinion, combined with the above elaboration of block chain public opinion. This paper defines public opinion in the block chain environment as the transmission of information about the spread of disease. Generally speaking, use mobile or non-mobile terminals to carry out applications on public opinion platforms that apply block chain technology. On this basis, a topic detection algorithm suitable for multidimensional

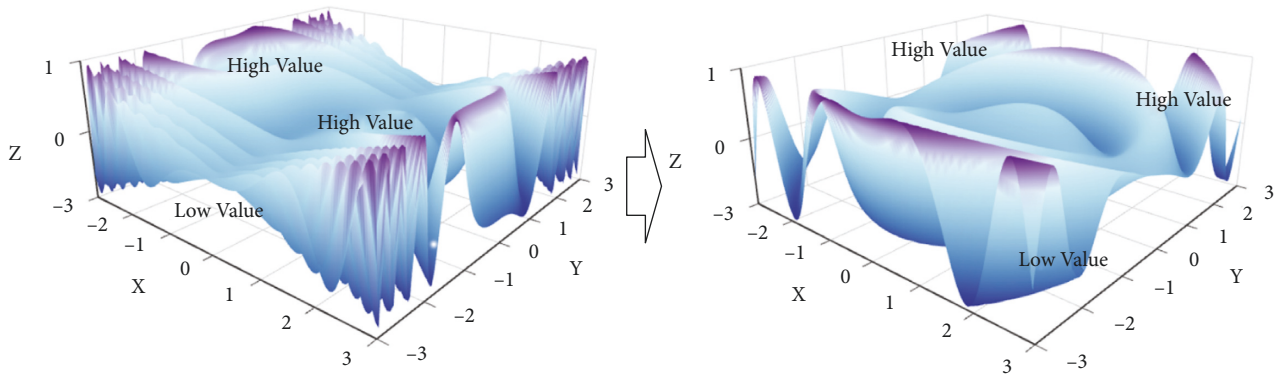


FIGURE 9: The schematic diagram of block chain public opinion situation monitoring and resource system.

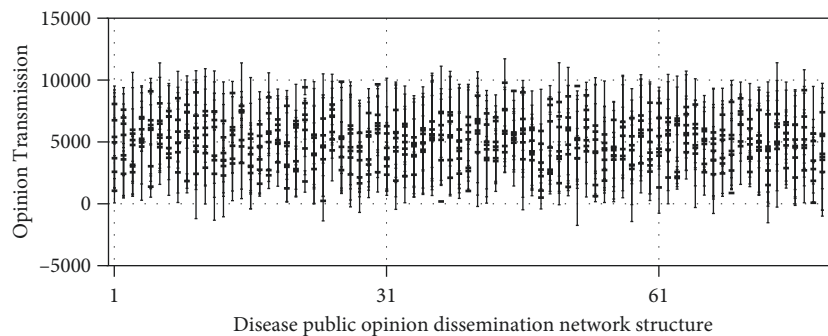


FIGURE 10: Monitoring and classification analysis diagram of block chain public opinion elasticity management.

public opinion network is further designed. The formation of public opinion has been systematically sorted out in different studies, including different perspectives, methods, and tools. Model analysis results are shown in Figure 10.

This paper elaborates the results of the above model analysis in detail. This kind of public opinion is multidimensional, multilevel, and multiattribute. Comprehensive reference is made to social psychology and systems science. This also requires classifying the attributes of the features. In this way, a multidimensional topology network model oriented to “self-media” network public opinion is constructed. Generation and dissemination of information based on multiple topics of the same event.

The carrier of public opinion has developed from pictures plus text to short videos. This increases the difficulty of control in many ways. The research is carried out from the perspectives of source characteristics and information forms. The number of Weibo followers, the number of comments, and the connection function play a key role in the spread of Weibo disease public opinion. In the multimedia environment, the public opinion management of disease transmission is carried out in different aspects, which specifically involve five factors. It includes the subject of public opinion and the object of management, involving space and media. Model analysis results are shown in Figure 11.

This paper elaborates the results of the above model analysis in detail. This paper proposes a risk management strategy for disease public opinion network spread based on smart contracts. This paper uses blockchain technology to

analyze the possible public opinion risks in the process of disease transmission.

*3.4. Elements of Disease Public Opinion Dissemination in the Block Chain Environment.* (1) The connotation and characteristics of public opinion on disease transmission are different. The public can use the Internet to express their views on social hotspots and key events. The public opinion on the spread of disease also contains the public’s attitude towards changes in events. Due to the wide range of sources of public opinion for the spread of disease.

The disease spreads relatively quickly. The disease itself also has the characteristics of anonymity. Therefore, the development of domestic public opinion often evolves into an uncontrollable trend. Some scholars have made an analysis by crawling relevant public opinion information on Sina Weibo. The dissemination characteristics of public opinion on sudden public events are analyzed in detail, by contrasting traditional online news media information. The differences and connections between the two are analyzed and then provide a reference for public opinion guidance. Some scholars have used social network analysis methods to take the public opinion of disease transmission as the research object. The characteristics of public opinion information dissemination in the new media environment are analyzed.

The evolution process and propagation law were discovered. Some scholars have used grounded theory to find the factors that affect the crisis of public opinion and use

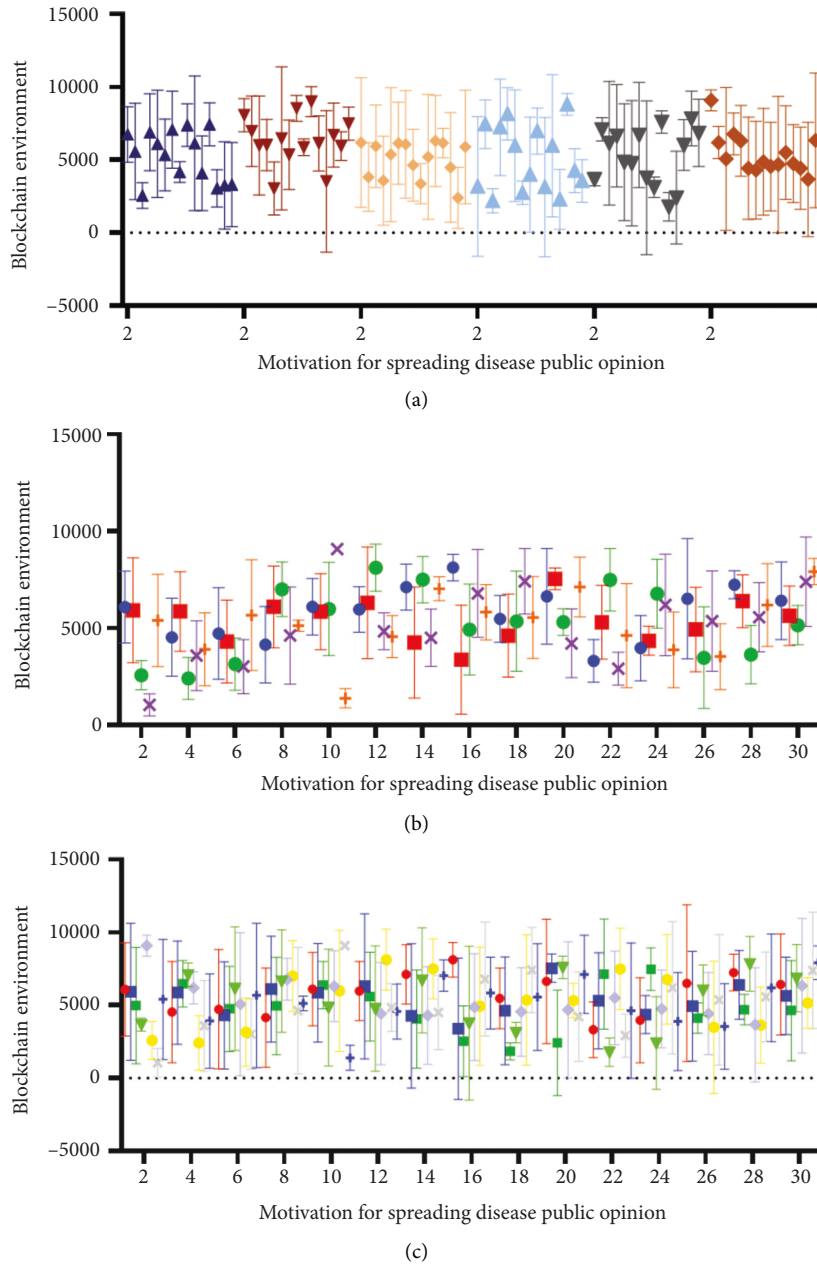


FIGURE 11: Classification and analysis of related theories of complex social networks.

crawler software to analyze the specific methods of public opinion management in actual cases. The results of the study found that there are various methods for government public opinion handling and government public crisis response. The government's own factors and public opinion discussions include four core factors. Some scholars have used the thermodynamic entropy theory to construct an analysis model of public opinion on the spread of diseases in emergencies. Through this model, the interaction mode of the public opinion system in the sudden disease transmission event and the change law of the entropy value in the process of public opinion evolution are analyzed. (2) It is also very important to study the evolution process and mechanism of public opinion on disease transmission. The

development of public opinion on disease transmission must first be disseminated, and then opinions begin to gather. Public opinion was finally swayed by netizens.

#### 4. Conclusion

4.1. *Motivation Analysis of Public Opinion Dissemination in Block Chain Environment.* It can also be spread during the stage of disease spread and public opinion development. Information can be expressed separately after being informed by society. Eventually, various actions began to emerge. In addition, there are media, public, events, and other components in the public opinion of disease transmission. The media often assume the role of leaders. Some

scholars use the theory of system dynamics to construct a propagation model for emergencies. At the same time, some scholars use the simulation model for analysis, specifically discussing the impact of government behavior on public opinion dissemination. Through the production of public opinion information, the expressed connotation is used to give feedback to social events. This information represents a collection of emotions and attitudes. Therefore, although the existing domestic and foreign scholars have achieved a wealth of research on the spread of disease public opinion, the public opinion information in the block chain environment is different in many aspects, such as dissemination characteristics, network structure, and dissemination process. Especially in the environment of constituent elements, there are obvious differences in the spread of disease public opinion. This further summarizes the law of emergency propagation, provides public opinion guidance for government departments, and then provides a theoretical basis for system adjustment. Specifically, the system not only promotes the dissemination of information but also affects the process of event development. Some scholars have systematically analyzed the evolution process of emergencies.

*4.2. Analysis of the Network Structure of Public Opinion Dissemination in the Block Chain Environment.* This paper studies the law of public opinion on disease transmission. Some scholars have proposed a rumor propagation model. They believe that as long as citizens can improve their self-awareness, they can effectively control the spread of rumors on the Internet. Some scholars believe that mutual attention among Weibo netizens will have an impact on the dissemination of information on Weibo. On this basis, the public opinion analysis is carried out by analyzing the various constituent elements of the folk public opinion. As a result, in the block chain environment, the theoretical support for the research on the influencing factors of public opinion information dissemination is insufficient. In addition, quantitative research has been carried out in terms of theoretical modeling, survey statistics, and the spread of disease public opinion. Conduct public opinion interpretation based on a solid theoretical foundation. Or quantitative research results can be derived based on the collected public opinion data. The public opinion research in the block chain environment strengthens the form of public opinion through technical support. This enhances the government's ability to deal with emergencies. Some scholars and others have studied the public opinion on disease transmission in emergencies in the new media environment. On this basis, the topic evolution process is divided. Based on this, we use Sina Weibo data to simulate the cycle of public opinion. Based on this, the law of topic evolution was discovered and provided targeted control. The treatment of public opinion on disease transmission in the new media environment needs to be further developed. Some scholars believe that network emotions play an important role in the evolution of

public opinion on disease transmission. Existing research proposes the emotional evolution law of public opinion of disease transmission. Some scholars have designed a Web public opinion system module and built a public opinion hot spot discovery and tracking module. Some scholars also put forward the "ten points" theory of public opinion analysis.

## Data Availability

The data used to support the findings of this study are available from the corresponding author upon request.

## Conflicts of Interest

The authors declare that they have no conflicts of interest or personal relationships that could have appeared to influence the work reported in this paper.

## Acknowledgments

This work was supported by special topic of the base of the Inner Mongolia Social Science Planning Project: Inner Mongolia Socialist Core Values Cultivation and Practice Experience Research, Item number: 2019ZJD037.

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