

Reflection on the blockchain application in Chinese public health financial institutions governance

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Abstract. This paper identifies three aspects of challenges in blockchain practices through textual analysis and case studies in the governance of Chinese public health financial institutions. First, given the conflict of interest in corporate governance, under the background of shareholder activism, the attitude of controlling shareholders towards blockchain technology can become a crucial force in technology commercialization. Second, the massive amount of data derived from blockchain technology can lead to privacy protection problems in the financial development of the public health industry. Third, the lack of business customs can become a commercial factor hindering the application of blockchain technology. Therefore, reflecting on blockchain technology in corporate governance can facilitate the public health industry to adapt to the new opportunities brought by technological changes and cope with risks in advance. These findings are innovative and could provide insights into the future cross-border governance of blockchain technology.

1 Introduction

Blockchain technology is encouraged to be used in the public health industry. For example, the Chinese 14th Five-Year National Health Plan released in 2022 shows that the application of emerging technologies in the public health industry will become the future trend. In addition, the financial development of the Chinese public health industry is in full swing. In 2020, Shenzhen Stock Exchange released the SZSE Public Health 50 Index, becoming the first public health A-share index in the Chinese financial market. Therefore, it is foreseeable that the application of blockchain in public health industry finance will become an opportunity in the future public health financial market, which belongs to the common concern of policy and commerce. However, although blockchain technology is encouraged in the financial development of the public health industry, the social governance problems brought about by technology commercialization also need attention. For example, cloning technology can help humans solve many problems, but food with modified genes may have

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safety, environmental and ethical problems [9]. In this context, this paper wants to reflect on the problems faced by blockchain in the corporate governance of the public health industry. It needs to be taken seriously in the era of rapid technological development.

2 Conflict between shareholder activism and blockchain technology

Shareholder activism was a corporate governance phenomenon in Western developed countries in the 1980s [5]. In this model, institutional investors actively participate in corporate governance, and investors usually solicit proxy voting rights to seek shareholder resolutions based on their shares [7]. Therefore, it is an opportunity for minority shareholders to participate in corporate governance. Under shareholder activism, emerging technologies supported by management may not be applied to actual corporate governance. For example, in a French M&A case in 2019, the acquirer was Capgemini, a world-famous consulting company, and the acquiree was Altran, the world's largest engineering R&D service provider. Capgemini believes the merger is conducive to developing new technologies (such as blockchain, cloud computing, artificial intelligence, and 5G) and the company's long-term development. However, *Les Associations de Fence des actionnaires*, which represents the interests of minority shareholders, believes that the merger can damage the interests of minority shareholders [3]. Although the two companies eventually merged successfully, the case shows the conflict between technological development and shareholder activism. Returning to the financial field of the public health industry, in the face of the uncertainty of blockchain in corporate governance, shareholders may intervene in the use of technology.

In the corporate governance of financial institutions in the public health industry, shareholders' intervention in blockchain technology is mainly based on two reasons. Firstly, the controlling shareholders' intervention in the claims of minority shareholders. In the corporate governance of public health industry financial institutions, blockchain technology can strengthen the protection of minority shareholders' rights to a certain extent. Although the interests of controlling shareholders and minority shareholders are not the opposite, in practice, the principal contradiction of corporate governance in China has long focused on the conflict between controlling shareholders and minority shareholders [11]. Therefore, technology beneficial to minority shareholders may limit the interests of controlling shareholders. If the controlling shareholders use voting rights to interfere with the application of blockchain technology, then the idea of minority shareholders is almost impossible to be supported. In particular, public health companies listed on the Shenzhen Stock Exchange are not only health industry companies but also technology companies. The application of technology is widespread in digital corporate governance, so it cannot be ignored.

Second, shareholders' intervention in management's claims. If shareholders and management have different attitudes toward blockchain technology, shareholders may also intervene. In technology development, the conflict between shareholders and management, the case of *Gree Electric acquiring Zhuhai Yinlong* in 2016, is typical. Gree Electric is a listed company in the field of air conditioning in China, while Zhuhai Yinlong is a new energy company. At the same time, Zhuhai Yinlong also has an industrial layout in public health. The management of Gree Electric believes that the acquisition is conducive to Gree Electric's entry into the field of new energy vehicles, not only broadening its layout in the field of public health but also promoting technological innovation. So, the Board of Directors strongly supports the acquisition. However, the minority shareholders did not recognize the opinion, so they actively exercised their voting rights, and the acquisition failed. Faced with blockchain technology, the company usually has two choices: develop new technologies by itself or acquire a new technology company. No matter which option is selected, the company's financial input is indispensable and is reflected in the company's financial

statements. If shareholders do not approve such an investment, the proposal cannot be implemented smoothly even if the management strongly supports it. Especially in M&A cases, shareholders worry about the dilution of their shares. Under the influence of short-termism, shareholder intervention is likely to occur.

In terms of specific intervention modes, there are mainly two types of modes. First, shareholders can exert pressure on the management. In 2020, China formulated the *Measures on Performance Evaluation of Directors and Supervisors of Banking and Insurance Institutions* (银行保险机构董事监事履职评价办法), which explicitly mentioned that directors and supervisors should actively perform entrusted business and serve the best interests of all shareholders [8]. Then, when the effectiveness of the director's proxy is questioned, shareholders can choose a new proxy. Second, shareholders can intervene through voting rights at the shareholders' meeting. In the acquisition case of Gree Electric, minority shareholders took advantage of this approach.

In a word, in the corporate governance mechanism of public health industry financial institutions, shareholders' intervention in the application of blockchain technology is based on the double contradictions, including the debates between controlling and minority shareholders, as well as between shareholders and management in corporate governance. Furthermore, the intervention methods can also vary in different relationships. Although in Chinese current business practice, there are not enough cases to carry out empirical research, with the in-depth development of blockchain technology applications in the public health industry financial market, these potential contradictions can gradually highlight.

3 Hidden worries about shareholder privacy protection

In corporate governance, blockchain technology can bring convenience to the protection of shareholders' rights, but it is also easy to trigger shareholders' concerns about privacy protection. The phenomenon is undeniable in public health industry financial institutions with decentralized ownership structures because, in such companies, the privacy concerns of natural-person shareholders are almost unremarkable.

3.1 Reasons for privacy concerns

Firstly, the application principle of blockchain technology. The application of blockchain in corporate governance is mainly based on data. Therefore, whether it is the board evaluation or the shareholders voting, if the company hopes to achieve better governance through blockchain technology, then the construction of the database is highly critical. The construction of the database needs to collect personal privacy information. In public health industry financial institutions, health data is one of the most essential resources for the survival of companies. Therefore, privacy protection is an unavoidable practical problem. For privacy protection involved in technological development, researchers put forward the theory of reasonable expectations for privacy protection [10]. Confidentiality should not be a prerequisite for privacy protection [10]. Moreover, whether shareholders' information is confidential or not, shareholders' privacy protection should be paid attention to in corporate governance. Therefore, in the company's internal governance mechanism, the code of conduct should be clear about the issue.

Secondly, the lack of corporate governance standards. Chinese current corporate governance codes, whether for listed companies, securities companies, bank insurance institutions, or securities investment funds [10], do not explain the privacy protection of shareholders and the corporate governance issues involved. However, it does not mean that protecting shareholders' privacy does not become a core concern of corporate governance, especially in the governance of multinational companies with decentralized shares. Given the

differences in economic and legal systems, shareholders' privacy protection will likely become the focus of controversy in the context of universal concern about privacy protection worldwide. So, when blockchain technology is applied to the governance system of financial institutions in the public health industry, is there a corresponding mechanism to provide solutions for potential shareholders' data privacy protection problems? In addition to the current legal supervision system of personal information protection, internal governance depends on the design of internal rules. In this regard, the solutions of different institutions may not be consistent. Therefore, a relatively unified solution is required.

3.2 Privacy concerns

First, it is the disclosure of minority shareholders' information. There are tens of thousands of investors in multinational companies with dispersed equity. It is unrealistic to disclose all shareholder information. For example, Ping An Insurance represents financial institutions in the Chinese public health industry. According to its 2021 annual report, the total number of shareholders is 1.208057 million, including 1.203791 domestic and 4266 overseas shareholders [1]. In response to the disclosure of equity institutions, the common practice is to disclose the top ten shareholders. Blockchain technology can make the disclosure of all shareholders' information possible. However, the privacy protection policies of different countries and regions are different, so there are still a lot of potential compliance conflicts in corporate governance when disclosing shareholder information through blockchain technology. For example, due to improper disclosure of shareholder information caused by technical failures, the responsibility of management is still ambiguous.

Second, it is the disclosure scope of shareholder information. In corporate governance, the disclosure of shareholder information is an essential aspect of achieving good governance; another critical issue is the scope of the disclosure. In 2017, the Ministry of Commerce of Thailand required domestic companies to provide the list of shareholders, equity information, audited accounts, and the shareholders' ID card number and passport number. However, according to Thai law, shareholders are not obliged to provide personal information to the Ministry of Commerce [12]. Therefore, it caused a heated debate on shareholder privacy protection in Thai society. Similar problems should also attract public attention. For financial institutions in the public health industry with substantial influence, China implements penetrating supervision, including the penetration of equity structure. Then, how can multinational companies with complex ownership structures ensure that shareholders' privacy is well protected while adhering to prudent supervision? China should clarify the disclosure scope of shareholder information, which is vital to attract international investors.

4 Lack of commercial custom

Commercial custom is usually corresponding to civil custom. It usually refers to the norms gradually formed by the repeated application and recognition of business behaviors [4]. Although commercial custom is not mandatory, it is one of the critical factors for the success of business models. On the one hand, if there is a lack of commercial custom and legal supervision, how can blockchain technology's improper impact on company operations be limited? Indeed, it is a supervision vacuum.

On the other hand, the company's business model cannot be carried out without commercial custom. The company's business development needs support from market participants. Moreover, other market participants also struggle to participate without commercial custom. From the perspective of corporate governance codes, although overseas corporate governance codes follow the basic principle of "comply or explain"[6], it is not reflected in the current corporate governance codes in China. It means that if current Chinese

corporate governance codes do not explain various governance problems caused by the blockchain, institutions can innovate the governance mechanism.

Excellent technology may lead to innovative business practices, but corporate governance codes may not accept it as business decisions must consider the market environment. If the public health industry financial market lacks recognition of blockchain technology in corporate governance, even if the company is willing to try this model, it is not easy to be widely accepted by the market participants. For example, investors choose to support Dogecoin because of the successful experience of Bitcoin, so it is easier to gain market recognition. In other words, blockchain-based virtual currency has a set of commercial habits and rules. Moreover, some companies have made attempts; for example, DBS Singapore has used the AntChain developed by Ant Group to reconstruct the trust relationship between the company and investors and shareholders, making DBS a pioneer in Asia in this field. However, the DBS model still lacks mature experience in the global context. Especially for cross-border shareholders, they still lack sufficient recognition and reference for the effectiveness of this model.

In this case, how to apply blockchain technology to public health industry financial institutions? First, it can be applied to the company's internal rules in priority. It can be used as an experimental internal mechanism as a sandbox corporate governance model [2]. When the mechanism becomes successful in the application of internal relations of the company, the company can consider applying blockchain technology to resolve disputes in external shareholder or investor relations. Secondly, when some companies recognize this model, but others do not, it is a dilemma for business applications. The company should focus on building a business ecological environment and encourage the long-term participation of shareholders. Furthermore, only with the long-term participation of shareholders can these visions be realized. These companies can now become the pioneers and leaders of future corporate governance reform and development.

In short, the development of public health industry finance cannot be separated from the support of the market environment and requires the long-term engagement of shareholders, which is a precondition for building commercial customs. The company can adopt the principle of internal priority to promote the application of blockchain technology in the corporate governance mechanism.

5 Conclusion

Facing blockchain technology, the reform of corporate governance mechanism is a microcosm of the changing social governance mechanism. The impact of blockchain technology on the governance mechanism of financial institutions in the public health industry can also spill over to other social governance models, such as administrative management, foreign trade economy, and cultural exchanges. Therefore, the reflection of public health industry finance on new technologies can become the reform direction of corporate governance for a long time. In addition, in the post-COVID-19 era, the expansion of overseas investment also needs to respond to the technical application problems in cross-border corporate governance. Shareholder activism and shareholder privacy protection in cross-border corporate governance can bring more complex challenges to the development of blockchain technology in public health financial institutions, which can also hinder the formation of commercial custom disguisedly. However, institutional reflection aims to identify problems and provide effective solutions. Therefore, before the application of blockchain technology becomes an irreversible trend, financial institutions in the public health industry should actively participate.

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