

Legal Regulation of Artificial Intelligence Directors under the Background of the Revision of China's New Company Law

Hao Xue^{1,a,*}

¹*International Law College, East China University of Political Science and Law, Shanghai, China*
a. xuehao1237@163.com

**corresponding author*

Abstract: With the rapid development of technology, artificial intelligence technology has gradually been valued by the public and applied in various industries. At the level of business and corporate governance, there are also examples of AI directors participating in corporate governance internationally, providing us with space to explore the application of AI directors in Chinese corporate governance and decision-making. In December 2023, China promulgated a newly revised Company Law, and this article aims to explore how China responds to the issue of artificial intelligence directors in the context of the new Company Law. Specifically, it manifests as the authorization of artificial intelligence directors as auxiliary functions, the expansion and modification of the obligations of natural person directors, and the issue of responsibility assumption caused by artificial intelligence directors.

Keywords: AI Director, corporate, governance, Chinese Company Law.

1. Introduction

In recent years, artificial intelligence technology has gradually been valued by the public. Artificial intelligence is a scientific and technological process that externalizes human will by perceiving the outside world and performing internal calculations, reflecting human intelligence and strength. With the continuous progress and development of science and information technology, artificial intelligence has gradually transformed and upgraded from a weak intelligence that only simulates human intelligence in a single dimension to a strong artificial intelligence with autonomous cognitive decision-making and even superhuman intelligence. Artificial intelligence technology has begun to emerge in various industries, and various products based on artificial intelligence have begun to appear in the market. In the business field, artificial intelligence technology has also begun to be applied to company operations and corporate decision-making, and artificial intelligence directors have emerged. As early as 2014, a venture capital fund called Deep Knowledge Ventures in Hong Kong, China, appointed an artificial intelligence agent called VITAL to participate in the company's investment decisions, giving it the right to vote on whether the company should invest in specific projects and to vote on business decisions. This initiative is known as the world's first corporate robot director.

In order to improve the modern enterprise system, promote the sustainable and healthy development of China's market economy, and enhance the level of corporate governance in China, China has undergone two systematic revisions of the Company Law since entering the 21st century, and finally promulgated the latest version of the Company Law on December 29, 2023. Compared to

the previous old law, the new law has undergone many fundamental changes, which is also known as a milestone in China's commercial legislation and corporate governance. Among them, the most guiding is Article 1 of the new Company Law, which clearly states that the purpose of formulating the Company Law is to "regulate the organization and behavior of companies, protect the legitimate rights and interests of companies, shareholders, employees, and creditors, improve the modern enterprise system with Chinese characteristics, promote entrepreneurial spirit, maintain social and economic order, and promote the development of socialist market economy.". As the main force of internal governance, directors play an important role in corporate governance. Combining artificial intelligence with corporate directors is an innovative business model and practice, and encouraging and promoting innovation is precisely the essence of entrepreneurial spirit.

In addition, the responsive legislative path of the Company Law also requires that the specific rules of the Company Law should be in line with the technological revolution and innovation of the same era. With the social reality moving from the Internet era to the era of artificial intelligence, the hot topics in corporate governance have moved from the "electronic shareholders' meeting" and "electronic voting" in the Internet era to the AI directors, corporate intelligence compliance and other topics in the current era of artificial intelligence. From this point of view, Article 24 of China's new company law stipulates that the convening and voting of the company's board of directors and shareholders' meeting can be conducted by electronic communication, which only sees the relationship between the Internet and corporate governance, but fails to respond to the contemporary topic of the relationship between AI and corporate governance, and AI directors are just an important connection between the two. Therefore, this article will discuss the possibility of applying artificial intelligence directors to corporate governance in China under the background of the promulgation of the new Company Law, as well as how to construct a governance system for artificial intelligence directors. This is not only a reform of intelligent corporate law, but also a reform of intelligent corporate governance in the new era.

2. Why should China's new company law respond to the topic of artificial intelligence directors?

2.1. The pursuit of efficiency in commercial operations

The application of artificial intelligence in corporate director governance can greatly improve the efficiency of company operations, as well as the accuracy and fairness of major decisions. Artificial intelligence directors can independently collect legal data, use algorithms and other technologies to analyze and process the data, make further optimization and adjustments, and finally apply the comprehensive plan to contract evaluation. Artificial intelligence technology can minimize the occurrence of contract loopholes by reviewing financing contracts, sales and procurement contracts, etc. In addition, the data collected by artificial intelligence is both comprehensive and specific, which can greatly save the operating costs of enterprises. Moreover, the results obtained based on algorithmic intelligent analysis will be more scientific and accurate than those obtained by natural persons through manual calculations and searches. Not only that, when making decisions on major issues such as project investment and corporate acquisitions, artificial intelligence directors are algorithmic and can set the types and parameters of investment risks and project evaluations in advance through corresponding code design. This does not lead to subjective "investment visions" like natural person directors, who make decisions based on their own risk preferences and investment impulses, thus causing the company to fall into difficulties and not in line with the company's long-term development.

In detail, when natural person directors fulfill their duty of loyalty, they may, out of their own greed and selfishness, harm the interests of the company through self trading, related party

transactions, encroachment on company opportunities, disclosure of trade secrets, and non compete behaviors. Artificial intelligence directors can perfectly solve the conflict between the personal interests of directors and the overall interests of the company. On the one hand, artificial intelligence directors do not own personal property and there is no motivation to seek personal gain; On the other hand, artificial intelligence directors can also accurately prioritize the company's interests by setting their own algorithms and using code when making decisions on major issues. In terms of diligence obligations, artificial intelligence directors are also more cautious in managing the company's finances and making decision-making decisions compared to natural persons. Artificial intelligence directors can objectively and comprehensively conduct data analysis and risk assessment in corporate governance through algorithmic programming. Such decisions based on computer algorithm technology are bound to be much more accurate than conclusions drawn by natural person directors based on their subjective work experience and manually collected data. The artificial intelligence board strictly follows the programmed algorithms to execute work tasks, and there will be no decision-making errors such as natural person directors due to negligence in their work.

2.2. Feasibility space in current laws

Although the new company law in China does not directly stipulate the combination of artificial intelligence and corporate governance, this indicates that AI directors are not currently explicitly prohibited by Chinese company law, providing a space for exploring the application of AI technology in corporate governance and decision-making.

On the one hand, as for artificial intelligence, which serves as an auxiliary function, such weak AI technologies are mainly used to provide advisory assistance and decision-making references for company decision-making, as well as data collection and analysis. This involves whether the company's directors can delegate the power that originally belonged to them to manage the company to artificial intelligence. Article 74 of the new Company Law of China stipulates that the board of directors may delegate some of its powers to the manager, who shall be responsible to the board of directors. In other words, the board of directors may delegate other powers to the manager, except for those involving board discussions and the exercise of voting rights that are not authorized. In terms of practical effectiveness, managers are responsible for the daily operations of the company and govern the company by making decisions and voting on various matters, which coincides with the role and role of artificial intelligence directors in corporate governance. From the perspective of functional equivalence, since the board of directors can delegate some authority to managers, it can also delegate authority to artificial intelligence with auxiliary functions.

On the other hand, there is already a precedent for corporate governance informatization in Chinese company law. As mentioned earlier, Article 34 of China's new Company Law is a new rule that stipulates the use of electronic communication mode as a form for convening major company meetings. Artificial intelligence is an update and iteration of electronic information technology. Therefore, based on the principle of prioritizing light over heavy, China's new Company Law should support and welcome the combination of artificial intelligence technology and company law rules. When artificial intelligence enters the era of strong artificial intelligence, it no longer only serves as an auxiliary role to help natural person directors govern companies, but can act as an independent entity, independently participating in the board of directors and making decisions and voting. In this situation, the urgent issue that needs to be addressed is undoubtedly the legal subject qualification of artificial intelligence. It can be seen from Article 125 of the Chinese Company Law, which stipulates the positive elements for the qualification of directors, and Article 178, which stipulates the exclusion of non natural persons from serving as directors, that the Chinese Company Law does not explicitly prohibit non natural persons from serving as directors of a company.

2.3. Policy orientation of commercial application of artificial intelligence in China

With the continuous development and innovation of artificial intelligence technology, China is also paying more attention to the application and exploration of artificial intelligence in business models, and also holding a positive and encouraging attitude in policies. In the notice issued by the State Council of China in 2017 on triggering the development plan for the new generation of artificial intelligence, it was mentioned that the key task is to cultivate a high-end and efficient intelligent economy: intelligent commerce. Encourage the application of new technologies such as cross media analysis and reasoning, knowledge computing engines, and knowledge services in the business field, and promote new business services and decision-making systems based on artificial intelligence. Build cross media big data platforms covering geographic location, online media, and urban basic data to support enterprises in conducting intelligent commerce. Encourage customized business intelligence decision-making services based on individual needs and enterprise management. Coincidentally, in the "Guidelines for the Construction of National New Generation Artificial Intelligence Innovation and Development Pilot Zones" issued by the Ministry of Science and Technology of China in 2018, emphasis was also placed on conducting artificial intelligence technology application demonstrations, exploring new paths to promote the deep integration of artificial intelligence and economic and social development. Focusing on local economic development and improving people's livelihoods, we will carry out artificial intelligence technology application demonstrations in fields such as finance, business and domestic services, and expand application scenarios. In addition, the "Action Plan for Artificial Intelligence Innovation in Higher Education Institutions" issued by the Chinese Ministry of Education in 2021 also combines the application of artificial intelligence with business, encourages the transformation and demonstration application of scientific and technological achievements in the field of artificial intelligence in various universities, supports universities to strengthen cooperation with relevant industry departments in intelligent finance, promotes the formation of new industries and formats in the financial field, cultivates a group of AI technology leading enterprises, and promotes the formation of several industrial clusters and demonstration zones.

In the guiding policy opinions on promoting the development of artificial intelligence issued by various administrative agencies in China, they all advocate the application of artificial intelligence technology in the field of commercial finance to promote the development and progress of this industry. The application of artificial intelligence technology to company directors is precisely a perfect fit with current policies, making a huge contribution to the efficiency of corporate governance and the accuracy of decision-making.

2.4. There are also precedents in the business practices of artificial intelligence companies

In addition to the previous discussion on China's overall open attitude towards the application of artificial intelligence technology in business goals, government policies, and legal content, the more important reason why China's new company law needs to respond to the issue of artificial intelligence directors is that artificial intelligence technology has been widely used by various enterprises nowadays, and there have been precedents of artificial intelligence being used in corporate governance and decision-making in Hong Kong and internationally. State owned enterprises such as China National Tobacco Corporation Qinghai Provincial Company have been using RPA (Robotic Process Automation) as early as 2022, which involves exchanging work information and business through robots according to designed programs, thereby significantly saving labor costs. UBS Group has developed artificial intelligence and machine learning systems, which can not only handle traditional tasks with high repeatability and low complexity, but also analyze large amounts of transaction data to provide reference for UBS in formulating investment strategies based on financial

market trends. In addition, as mentioned earlier, in 2014, Hong Kong venture capital firm Deep Knowledge Ventures introduced an artificial intelligence called VITAL and used it as an "investment observer" to assist the company's directors in approving two investments[1].

In summary, it is precisely through the entry of artificial intelligence directors into the company's board of directors and the application of artificial intelligence technology in modern corporate governance that the company can achieve diversified unity in commercial efficiency, legal reform, policy goals, and business demonstration practices. Therefore, in the context of the newly revised company law in China, it has become particularly important to consider how the new company law responds to the issue of artificial intelligence directors.

3. How does China's new company law respond to the issue of artificial intelligence directors?

As mentioned earlier, although artificial intelligence directors do not have explicit legal recognition, the current company law does not explicitly prohibit them. Through the previous understanding and expanded interpretation of Articles 72 and 180 of the Chinese Company Law, it can also be inferred that artificial intelligence directors have legal feasibility. However, these inferences ultimately come from purposeful interpretations of legal rules based on the purpose of writing this article, rather than direct provisions of the law. This will lead to a lack of direct rules for AI directors in the current legal context, and companies may be at a loss on how to construct and apply them to fully demonstrate their advantages and functions. Therefore, this article will discuss how to directly respond to the issue of artificial intelligence directors under the current Chinese company law.

3.1. Construction principle: distinguishing between strong and weak artificial intelligence

According to the different stages of development of artificial intelligence technology, its combination with company directors can be distinguished: weak artificial intelligence as an auxiliary director and strong artificial intelligence as an independent director. However, for two different forms of artificial intelligence technology, due to their different application to company directors and the different bodies of directors, separate regulations need to be made in legislation. In the application of weak artificial intelligence to company directors, it mainly serves as a reference for assisting natural person directors in decision-making and risk assessment, and does not have the subject status of directors. The director of strong artificial intelligence has the status of a company director and can independently make decisions and govern the company. Due to the emergence of many artificial intelligence directors in foreign countries and Hong Kong, which are mainly used in the investment banking industry, weak AI directors have become an inevitable choice for companies around the world to improve decision-making accuracy and operational efficiency compared to strong AI directors who are still in the hypothetical and conceptual stage[2].

3.2. Specific rules: revolve around weak artificial intelligence directors

Firstly, at the level of the board of directors, weak artificial intelligence mainly assists natural person directors in data collection, analysis, and decision-making reference. Company directors are still natural persons, so it will not affect the relevant provisions of the current Chinese company law on the qualifications of company directors. However, in order for artificial intelligence to better assist natural person directors in participating in corporate governance, the Chinese Company Law should expand its content around Article 74, stipulating that the board of directors can not only delegate some of its power to govern the company to the manager, but also directly delegate it to artificial intelligence directors. Agree that the AI director shall exercise the relevant powers of the director within the authorized scope. This can enable weak artificial intelligence technology to participate in

the daily operation of the company, vote on many matters, and thus reduce the burden on natural person directors.

Secondly, expand the diligent obligations of natural person directors and apply artificial intelligence directors to corporate governance. Given the algorithmic dominance and high efficiency of artificial intelligence technology, natural person directors need to rigorously review and supervise their judgments when introducing artificial intelligence technology to assist them in managing the company[3]. Natural person directors should also have the obligation to hire artificial intelligence directors for the development of the company when they realize that artificial intelligence has unparalleled "superhuman" advantages in certain specific fields. This leads to the need to expand the duty of diligence of directors under company law - directors have an obligation to construct artificial intelligence directors to assist decision-making. On the one hand, considering that artificial intelligence has more accurate judgment and efficient execution compared to natural humans in areas such as data collection and analysis. Therefore, using artificial intelligence technology to replace existing human work in specific fields will greatly improve the efficiency of company operations and save the company's manpower and financial resources. Therefore, using artificial intelligence technology to involve them in the operation and operation of the company is clearly important and significant in achieving the company's interests. So, when natural person directors who have a diligent obligation recognize the various advantages of artificial intelligence, they should have an obligation to hire AI directors to assist in decision-making, in order to maximize the company's interests.

Thirdly, increase the types of director behavior prohibited by the duty of loyalty. The duty of loyalty may also change due to the construction of the artificial intelligence board of directors system - in the case of weak artificial intelligence assisting directors, natural person directors may use some means to pre adapt pre algorithms and parameters, resulting in their decisions made using artificial intelligence being beneficial to themselves and damaging the company's ability to seek benefits. Therefore, in addition to the five behaviors listed in the Chinese Company Law where directors infringe on the interests of the company, an additional type of behavior can be added - prohibiting directors from using their authority to interfere with artificial intelligence decision-making for profit and harm the interests of the company.

Fourthly, natural person directors shall bear decision-making responsibility and developers shall bear development responsibility. In the case of weak artificial intelligence assisting natural person directors, if natural person directors infringe upon the interests of the company after making decisions using artificial intelligence, the issue of liability for damages should also be reconsidered in legislation. Due to the fact that weak artificial intelligence itself does not have a dominant position as an auxiliary, the responsibility should still be borne by natural persons. If a director uses artificial intelligence to make decisions and perform their duties, causing harm to others, the company shall first bear the corresponding compensation liability. As for the natural person directors authorized by them, as regulators of artificial intelligence, if there is evidence to show that they have not fulfilled the relevant obligations of loyalty and diligence mentioned above, it can be considered that they have fault, negligence, and violated their obligations as directors, and should bear corresponding liability for damages. However, given the highly technical nature of artificial intelligence directors and the difficulty in controlling technical risks by non professional natural person directors, when it can be proven that the artificial intelligence technology introduced to govern the company itself has significant defects and deficiencies and incurs responsibility, the manufacturer that develops and designs the artificial intelligence technology should also compensate the company for the losses incurred due to the decisions made by the company based on the recommendations of the products it designs[4].

4. Conclusion

Entering the era of artificial intelligence, artificial intelligence technology has brought countless conveniences to our lives and the development of various fields. At the level of corporate governance in business, the application of artificial intelligence in the decision-making process of the company's board of directors greatly improves the efficiency of company operations and the scientificity of major decision-making. This can not only better safeguard the interests of the company but also save a lot of manpower and material costs[5]. It is precisely because artificial intelligence directors can bring many benefits to companies that China's newly revised Company Law also needs to keep up with the pace of the times and urgently respond to this important topic. In the current era of weak artificial intelligence directors, the main issues that company law should address are whether directors can delegate some of their powers to artificial intelligence and whether directors have an obligation to hire artificial intelligence[6]. In the future, as we enter the era of strong artificial intelligence, the director of artificial intelligence is no longer a fantasy, and the law should also consider and regulate the legislation of AI directors with high autonomy.

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