Research on Advanced Technology of Corporate Governance Based on Computer Big Data

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Abstract: As the three elements of information, connectivity and computing power become more economical and convenient, big data applications will become more and more popular. How to play the role of big data applications is the concern of corporate governance (corpgov). Corpgov is a mechanism to coordinate the rights, responsibilities and interests of corporate stakeholders and ultimately protect the interests of shareholders. Big data is an extremely important link in the CorpGov mechanism, and CorpGov provides power for the independence and quality of big data. There is a positive interaction between the two, and they interact and merge with each other. According to the new features of CorpGov after entering the era of big data, this paper discusses the advanced technology research of CorpGov based on computer big data. Only by perfecting CorpGov mechanism can listed companies disclose financial information truly, completely and accurately.

1. Introduction

Nowadays, the rapid development of science and technology represented by the Internet, the Internet of Things, distributed computing and storage has made the three major elements of information, connectivity and computing power more economical and convenient, which has given birth to the advent of the era of big data [1]. In the era of big data, the business activities of organizations and their customers, suppliers and other partners, the behavior trajectory of consumers, the external natural environment, political and economic environment can be digitized and recorded, forming a large number of "data bread crumbs" that are constantly accumulated. These "data bread crumbs" are collected, sorted, analyzed, calculated and visualized, the result may be infinitely close to the real world [2]. Data has become another important asset besides manpower, material objects, finance, technology, intellectual property and relationship [3]. By using big data assets, enterprises can more keenly perceive the surrounding changes, gain a deeper insight into the behaviors and changing trends of consumers and partners, optimize the operation of enterprises more accurately, and carry out collaborative innovation with business partners more harmoniously. Big data is reshaping enterprises, redefining industries and becoming the driving force of cross-border [4].

The information publicly disclosed by listed companies is the most direct way for stakeholders to obtain the operating results of listed companies. Therefore, it is required that the information disclosure of listed companies must be timely, accurate and complete, and the governance and operating conditions of listed companies can be conveyed through information disclosure [5]. At this stage, big data technology is a new environment for company development, which will have an important impact on the listing of CorpGov and information disclosure [6]. In the context of big data, listed companies can achieve the purpose of data information optimization and integration through data opening and resource sharing, so as to promote the improvement of corpgov level and the improvement of governance mechanism [7]. Only by improving the corpgov mechanism can listed companies truly, completely and accurately disclose financial information [8]. According to the background of computer big data, this paper puts forward the research of corpgov advanced technology.

2. CorpGov based on computer big data

2.1 Benefits brought by rational application of computer big data to society

The wide and reasonable application of advanced technology has brought many conveniences to all walks of life and effectively improved the production efficiency of various industries. For example, the application of computer technology in the field of education and teaching can effectively improve the educational level, which is due to the fact that computer technology can improve teachers' teaching tools on the one hand, thus effectively reducing teachers' teaching burden. On the other hand, it can create a more comfortable learning environment for students, so as to stimulate their enthusiasm for learning, and then improve their learning efficiency. The application of computer technology to the medical and health industry can firstly promote the development and maturity of localized medical equipment, and secondly, it is also convenient for medical workers to safely and properly manage patient information and improve the efficiency of information management.

The wide application of computer network technology has effectively promoted the technological development of various industries, thus improving the traditional production and management technology. Many new advanced technologies have been born under the background of computer big data. For example, PLC technology, which is widely used in the field of industrial production, is the product of the perfect integration of computer technology and programmable devices. Its application in industrial production can effectively improve production efficiency, and improve the shortcomings and defects existing in traditional technology. Moreover, its application scope is constantly expanding based on its excellent performance. At present, it has been widely used in power system industry, thus effectively improving the efficiency of power system management.

2.2 Importance of CorpGov

With the advent of the era of big data, the economy continues to develop towards globalization. Some very large and well-known companies, such as Nokia, declared bankruptcy or were acquired overnight. This has sounded a wake-up call for many companies, and they need to take warning and strengthen CorpGov. However, at this stage, some people still have misunderstandings about corpgov. Some people think that corpgov is something that some large companies and multinational companies need to consider, while some small companies and start-ups do not need to consider these issues. Corpgov has nothing to do with small companies and start-ups. This understanding is wrong, and there are many dangers. Actually, CorpGov is very important whether it is a big company, a multinational company, a small company or a startup company. Especially for start-up companies, CorpGov is more important, so CorpGov structure should be arranged from the beginning of the company's establishment.

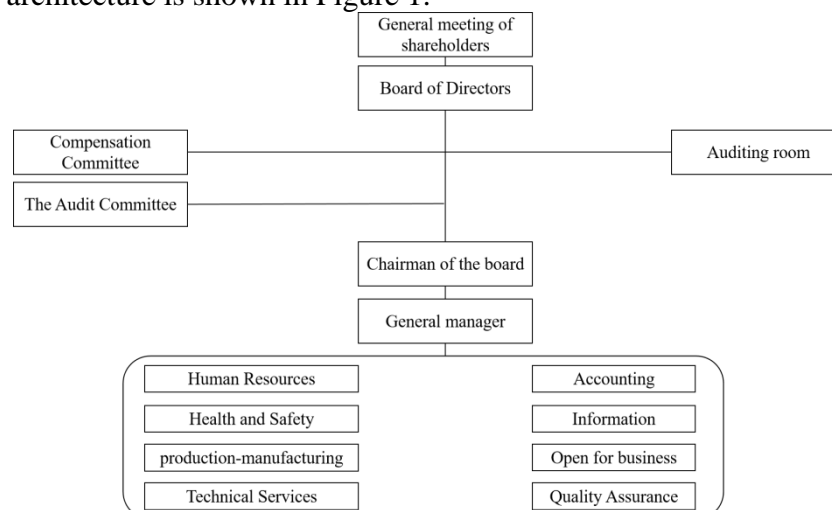The CorpGov architecture is shown in Figure 1.

Figure 1. Corporate governance structure

Specifically, CorpGov can be used for a company as the foundation is for a building. At the beginning of the construction of the building, the foundation must be laid first, so that the building can be built firmly, and the company is no exception. For sustainable development, CorpGov should be valued at the beginning of the company's establishment. In China, the vast majority of people are hindered by human feelings. At the place where the company was founded, they are unwilling to do things too clearly. They feel that too clear division hinders human feelings. They often seriously ignore the importance of corpgov, which leads to opposition, civil strife and other things after the company's success. In addition, because the laws and regulations related to CorpGov in China are not perfect up to now, it is difficult to take legal measures to solve the internal contradictions in the company, which leads the company to devote a large part of its energy to internal friction, which is a great sorrow for entrepreneurs. Therefore, the company should attach importance to CorpGov to better promote the sustainable development of the company.

3. CorpGov's measures under computer big data

3.1 Challenges facing big data governance

With the explosion of information, mankind has entered a new era-the era of big data. The future development of enterprises depends more and more on changes in data. In order to better adapt to the era of big data, companies need to make changes in many aspects such as decision-making methods, governance transparency, and information environment. The changes of big data to CorpGov are reflected in the following points. The company's decision-making data, CorpGov transparency, and governance environment information.

Compared with the traditional data index, the "4V" feature of big data (large number, diversity, low value density and fast computing speed) lead to a wider scope, higher level and more resource investment of big data governance, resulting in a certain degree of difference from data governance in terms of purpose and right level, but there are certain similarities in the core dimensions of governance problems such as governance objects and practical problems to be solved, as shown in Table 1.

Table.1. The connotation and relationship of big data governance and data governance

Conceptual dimension	Concept connotation of big data governance	Conceptual Connotation of Data Governance
Purpose	Encourage the occurrence of expected behaviors of "realizing value" and "controlling risks", and big data governance emphasizes the realization of benefits and the management and control of risks	Encourage the occurrence of expected behaviors of "realizing value" and "controlling risks", and data governance emphasizes efficiency improvement
Hierarchy of rights	Big data governance outside the enterprise emphasizes the distribution of ownership. Big data governance within the enterprise emphasizes the distribution of management rights	Data governance emphasizes the distribution of operating rights within the enterprise
Objects	Power and responsibility arrangement, that is, ownership of decision-making power and responsibility	
Practical problems	What are the decisions. Who makes the decision. How to make a decision. How to monitor decisions	

One of the important connotations of governance is decision-making, and the elements of big data governance describe the key areas of big data governance, which are also the areas in which the big

data governance layer should make decisions. According to the roles of different fields in management, we divide the elements of big data governance into four categories, as shown in Figure 2. They are target elements, enabling elements, core elements and supporting elements. The target element is the expected result of big data governance, which puts forward the needs of big data governance. Enabling factors are the direct determinants of the effectiveness of big data governance. The core elements are the elements that need to be focused on in big data governance. Supporting elements are the foundation and necessary conditions for realizing big data governance.
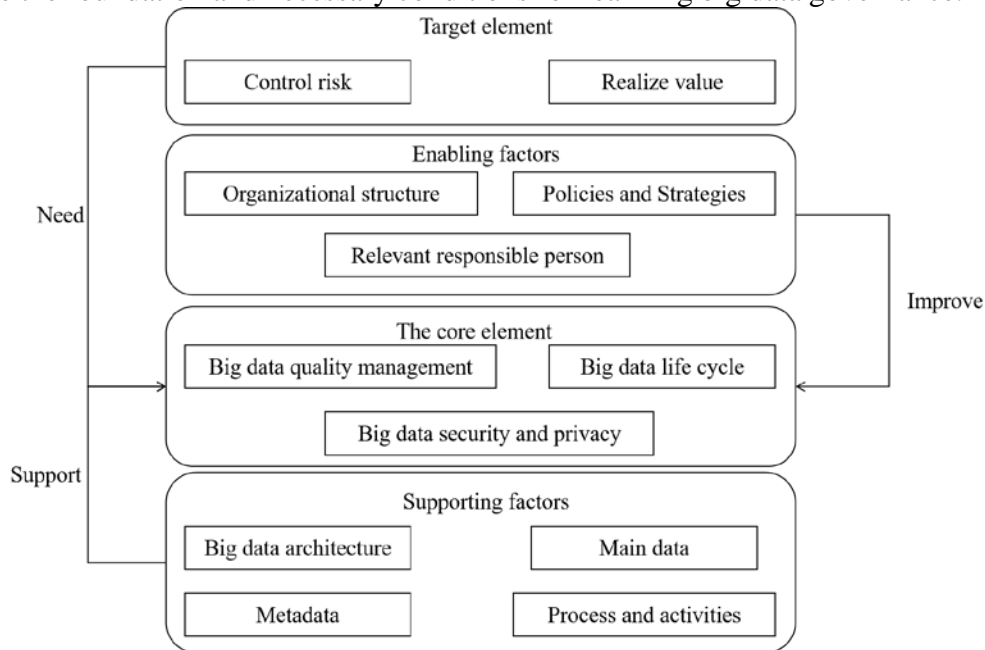

Figure 2. Big data governance elements and framework

3.2 Effective measures to strengthen corpgov

Change the current situation of the company's dominance in equity, avoid the manipulation of the company's interests by large equity owners, and optimize the equity structure scientifically and reasonably. At the same time, we should also improve the equity civil litigation system, so as to form a certain deterrent and supervision to the company's managers and shareholders. In addition, we should also strengthen the rights and interests of small equity owners in the general meeting of shareholders, promote small equity owners to actively participate in the construction of the company and supervise the operation and management of the company.

Under the background of big data, if a company wants to survive and develop, it must strengthen the construction of its power balance mechanism. On the one hand, the board structure of the company should be adjusted and optimized, and the proportion of independent directors among board members should be appropriately increased, so that the board can play a real supervisory role. On the other hand, the rights and interests of the company's board of supervisors should be improved to improve the board's right to know and supervise, and avoid the board of supervisors from becoming a mere formality. In addition, the management of the company's management should also be strengthened to balance the rights of all aspects of the company, so that CorpGov can develop in a positive direction.

The incentive mechanism can effectively create greater value for the company. By establishing the incentive mechanism, relevant personnel can actively participate in the construction of the company. At the same time, the incentive mechanism can also effectively restrict the behavior of relevant personnel, reduce management cost investment, achieve the goal of corpgov and create greater economic benefits for the company. At present, the most commonly used incentive mechanisms include: reward and punishment system, salary incentive, knowledge incentive, honor incentive and so on.

4. Conclusions

Under the background of big data, the shortcomings of CorpGov are becoming more and more obvious. In order to promote the healthy development of the company, effective measures must be taken. Meanwhile, the current CorpGov and the dynamic adjustment of capital structure are analyzed, so as to obtain the basis for the dynamic adjustment of capital structure. Through the scientific and reasonable adjustment of capital structure, the company can realize the best value and promote the sustainable development of the company. Gov has many problems, among which the board of directors and the board of supervisors are difficult to play their due roles, and the governance imbalance of the company's management is the main reason. There is a connection that cannot be ignored between CorpGov and the quality of information disclosure: On the one hand, a rationalized CorpGov structure can effectively supervise and motivate executives and restrict their violations. So as to provide institutional guarantee for the improvement of the quality of information disclosure. On the other hand, with the help of information disclosure, the problems in CorpGov can be fully exposed and corrective measures can be taken. Therefore, it is the general trend to improve the structure and mechanism of listed corpgov. By establishing a scientific and reasonable corpgov structure and improving the corpgov mechanism, the quality of information disclosure can be greatly improved. Generally speaking, CorpGov is a new research field under computer big data. Compared with traditional data governance, the large-scale, diversity, real-time and low value density of big data bring new features to big data governance. Improve the working efficiency of CorpGov, make the internal role of the enterprise in CorpGov play to the maximum extent, and better promote the development of the enterprise.

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