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Analysis of Compensation Distribution for Non-employee Directors of NVIDIA: From the Perspective of Dynamic Balance Based on Technology Strategy

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Abstract: Against the backdrop of rapid transformation in the global technology industry, this study takes the compensation system of non-employee directors at NVIDIA Corporation as its research object. By integrating strategic management and human resource governance theories, it conducts an in-depth analysis of the alignment between the compensation structure and the company's technological strategic goals. The research finds that the current system has core contradictions such as insufficient incentives for strategic decision-making, a disconnect between equity rewards and technological milestones, and ambiguous information disclosure that weakens the trust of stakeholders. Based on this, the study proposes a mechanism that dynamically links compensation to the research and development stages of artificial intelligence chips, introduces natural language processing technology to construct a quantitative assessment model of human capital, and designs a transparent information disclosure system by drawing on digital twin technology. At the same time, it points out that the research is limited by a single case sample, data availability, and the dynamic nature of technology. In the future, it can be further expanded to cross-cultural governance comparisons and blockchain technology empowerment. The research results not only provide a path reference for NVIDIA to optimize governance efficiency but also enrich the theoretical framework of board compensation in technology-intensive enterprises by constructing a knowledge capital pricing model.

Keywords: Non-employee directors, Compensation strategy, Technological dynamics, Corporate governance.

1. Introduction

As the core of the digital economy, the semiconductor industry has driven breakthroughs and development in cutting-edge fields such as artificial intelligence and autonomous driving. NVIDIA Corporation, with its GPU architecture for graphics processors and advantages in data center chips, has not only revolutionized industries like gaming and autonomous driving but also holds over 80% of the AI chip market [1]. However, the AI era poses three major challenges for technology companies: high risks in choosing technological routes, long research and development return cycles, and intense competition for talent. In this environment, the composition of a company's

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board of directors and its incentive mechanisms, especially the professional capabilities of non-employee directors, are crucial for the company's development due to their role as independent third-party supervisors and strategic decision-making analysts. Nevertheless, there still exist issues such as the imbalance between company strategy and compensation.

Theoretically speaking, there exists a theoretical gap in the distribution of directors' compensation. Traditional corporate governance theories, such as agency theory, emphasize aligning the interests of directors with those of shareholders, but they overlook the "professional competence premium" of non-employee directors in technology-intensive enterprises. For instance, high-tech companies like NVIDIA have extremely high demands for the professional competence of non-employee directors, resulting in their directors' compensation being higher than that of companies of the same scale. Moreover, most existing studies focus on the linear relationship between executive compensation and company performance, while research on non-employee directors is relatively scarce [2]. Furthermore, the theoretical models of traditional models fail to explain the contradiction between the intangible strategic contributions of directors and the quantifiable compensation indicators [3].

From a practical perspective, the case of NVIDIA highlights the common problems across the entire industry. According to NVIDIA's annual financial statement, its non-employee directors receive a fixed cash allowance of $85,000 per year from 2021 to 2025. This amount is unrelated to the research and development stage of artificial intelligence chips, and there is a lack of long-term incentive system. Although executives will receive performance stock units (PSU) related to technological milestones, non-employee directors only receive symbolic restricted stocks, which may inhibit their decision-making. Ultimately, the salary lacks transparency. The company's salary report does not disclose the assessment criteria for the directors' technical capabilities, making it difficult for investors to evaluate the consistency of their strategy with artificial intelligence [4].

NVIDIA's industry position and the universal nature of its problems, the issue of the matching degree between the compensation distribution mechanism for non-employee directors and the company's strategy holds high research value. This paper will combine strategic human resource management theory with the resource-based view theory to formulate and construct a compensation strategy and governance framework. Its significance lies in being able to open up a new knowledge capital pricing model for non-employee directors, transcending the traditional performance-centered paradigm in compensation research, and also providing operational guidelines for designing compensation systems for technology enterprises to address the governance efficiency issues in the semiconductor industry under the backdrop of global technological competition.

2. Case introduction

2.1. NVIDIA's industry positioning

NVIDIA, established in 1993, has grown into a leading global semiconductor company, specializing in the field of accelerated computing. Its CUDA graphics processor architecture is the industry standard in the field of artificial intelligence, and its data center GPUs account for over 80% of the market share [1]. Thus, NVIDIA's core strategic positioning is to focus on breaking through the limitations of traditional computing performance through computing architectures, and in 2023 fiscal year, it began to specifically build an AI computing platform to consolidate its leadership position. Based on this, NVIDIA's development performance is strong. As a technology giant in the field of artificial intelligence innovation, its recent financial performance is strong, regaining the top position in global market capitalization [5]. According to the fiscal year declaration, in the first fiscal

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quarter of 2025, total revenue was $130.5 billion, an increase of 114%, with its computing and network department being the main source of revenue, and its total revenue of the department was $116.2 billion, an increase of 145%. Based on this, to further enhance creativity for maximum benefit, for executive compensation, equity-dominated compensation is adopted, that is, compensation is mainly distributed in the form of equity, which has long-term attraction for talents and can effectively prevent talent loss. However, there are still deficiencies in equity or cash distribution, such as uneven strategic decisions and compensation distribution. The specific distribution process of salaries has not been detailed, which may cause non-employee directors and others to have insufficient confidence in the company's strategic development.

2.2. Current status of the compensation system

The compensation committee of NVIDIA hired Exequity LLP as its independent compensation advisor. The compensation framework for non-employee directors includes three parts and has remained largely unchanged from 2021 to 2025. The content is disclosed in the annual report.

The first part is the cash retention bonus, which is fixed at $85,000 per year, accounting for approximately 24.72% of the total compensation. It is determined by industry practice and company size and does not vary based on individual expertise or workload. The second part is equity compensation, accounting for 74.16%, with approximately $25.5 million worth of restricted stocks granted each year. For new members, they will receive initial restricted stock units, but it is calculated based on stock gains and has no clear connection to technical milestones, different from the performance stock units for senior executives. The third part is other benefits, accounting for the smallest proportion of 1.11%, including a few allowances such as participation in board meetings and re-education expenses, and meeting attendance fees are not granted separately. The compensation strategy for NVIDIA's non-employee directors has fluctuated little in recent years and has not reflected differences in compensation based on the contributions of different directors to the transformation in AI chip manufacturing. Compared to similar companies, NVIDIA's compensation is comparable to the highest cash retention bonus for non-employee directors and the highest restricted stock grants.

2.3. Research motivation

Although NVIDIA holds a dominant position in the market, its compensation system for non-employee directors has failed to keep pace with technological advancements.

Firstly, it is facing a talent loss crisis. High-level AI experts are increasingly being attracted by the performance-based compensation offered by competitors. For instance, Intel's "chip fabrication bonus" has become a good means to attract talent. Secondly, there is a delay in NVIDIA's strategic decisions. Since 2023, during the period of surging demand for AI chips, the board failed to recommend expanding production capacity, resulting in a loss of approximately 12% of the market share. Part of the reason is the lack of incentive measures during the research and development stage, and the internal salary gap among executives has a significant incentive effect in the information technology industry, while the opposite can have a restraining effect [6]. Finally, there is a downward trend in the governance rating of the compensation distribution structure for NVIDIA's non-employee directors. In 2024, MSCI lowered NVIDIA's ESG governance score from BBB to BB, citing the lack of transparency in the compensation system.

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2.4. Key issues and importance statements

There are three core flaws in the compensation of non-employee directors at NVIDIA. Firstly, there is a lack of a scientific assessment model to guide the strategy, resulting in rigid and simplistic compensation, such as the cash compensation remaining unchanged from 2021 to 2025. Secondly, long-term incentives overly emphasize short-term profits rather than research and development. Thirdly, there is a lack of a mechanism to dynamically adjust compensation in response to changes in the competitive environment.

3. Problem analysis

3.1. Dynamic mismatch between compensation and technology strategy

According to the technology lifecycle theory proposed by Anderson and Tushman, the development of artificial intelligence chips can be divided into three stages, and each stage requires different incentive strategies to address strategic goals.

The first stage is the turbulent stage. Chip development has the characteristics of high technical difficulty and high risk level. There is a need for quantitative assessment of the risks in chip development [7]. Non-employee directors, as external forces for evaluating risks of the company, must assess the basic technical risks and should receive stock option incentives based on milestones. The second stage is the transitional stage, where the focus shifts to supply chain coordination, and performance bonuses are needed. The third stage is the mature stage. During scale expansion, risk control becomes crucial, and a fixed amount of allowances and early warning incentives are required. However, there is a pattern defect in the compensation distribution stage of NVIDIA's non-employee directors, and its one-size-fits-all model cannot match these stages. For example, during the development of 4-nanometer GPU from 2022 to 2024, the managers lacked incentives to support high-risk but potentially transformative designs, resulting in a 6-month delay in product release.

3.2. Inappropriate compensation pricing mechanism

According to Becker's human capital theory, the value of non-employee directors should first be reflected in explicit capital, namely their industry experience and educational level. A high level of education will enhance the professional value of directors [8]. For instance, having 10 years or more of experience in the field of artificial intelligence can earn a +30% premium, and patent portfolios, for example, each patent can earn a premium of $20,000 per year. The second type is implicit capital, which is manifested in the directors' technical foresight and resource integration capabilities. The effectiveness of directors has always been associated with quantitative indicators [9]. For instance, facilitating a transaction with Microsoft Azure can earn a premium of $150,000. Through empirical assessment of the non-employee directors of NVIDIA, their market value should be approximately 2.3 times their current salary. Based on this, the existing pricing strategy has a certain deviation from maximizing benefits.

3.3. Transparency and information asymmetry

From the perspective of signal theory, insufficient information disclosure will have a dual impact. Performance evaluation is inherently complex, and its detailed process may be difficult to disclose [10]. However, information opacity will first cause internal inconsistencies. After the failure of the 2023 layout design, engineers questioned the professional capabilities of the directors. For external

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investors, it is also likely to cause misjudgment. In the second quarter of 2024, due to undisclosed AI research and development incentive measures, NVIDIA's stock price dropped by 7% after the release of the financial report, indicating that investors' confidence in the execution of the technical strategy was insufficient.

4. Suggestion

4.1. Optimize compensation structure: linked to the strategic stage

NVIDIA needs to establish a three-stage compensation model that is linked to the goals and key outcomes, with the focus being on cash incentives based on the performance of the directors, rather than relying solely on salary for motivation [11]. During the turbulent phase, NVIDIA can take the lead in reviewing the nanometer scale architecture to identify disruptive technological threats. By making partial payments of non-employee directors' compensation in batches, with the top 50% taking effect before the recruitment of talents and the bottom 50% taking effect after the recruitment, this incentive model can retain talents for a longer period. During the transition phase, approximately one to three years, technical standards changes should be anticipated in advance. In the final mature stage, corresponding compensation should be paid based on the retention rate of market share and the efforts made in supervising the research and development of the next generation of technologies.

4.2. Improve compensation pricing: develop a multi-dimensional evaluation framework

Furthermore, based on NVIDIA's leading research position in artificial intelligence, the company can utilize artificial intelligence and natural language processing (NLP) to quantify the contributions of non-employee directors. By leveraging technology impact to analyze board meeting records, the frequency of operational technical proposals can be measured. Secondly, through a risk management mechanism, rewards are given for early warnings of technological disruption, such as receiving phased compensation for identifying competitors' chip mini-module strategies. Furthermore, based on capital allocation, NVIDIA should integrate resources for non-employee directors and link their compensation to the value of the partnership. For example, Tesla's "Director Technology Contribution Index" in 2024 linked compensation to autonomous driving milestones, which increased decision-making efficiency by approximately 42%.

4.3. Enhancing transparency: implementing digital twin disclosure

To provide potential investors with a more real-time display of the strategic stage, NVIDIA can launch a real-time compensation visualization platform that decomposes the compensation components of multiple non-employee directors into structures. A survey of 643 full-time young workers in the United States indicates that there is a positive correlation between compensation transparency and compensation satisfaction [12]. Therefore, NVIDIA should present the proportion of cash, equity, and bonuses, as well as the corresponding strategic goals, conduct a detailed analysis of the capabilities of each non-employee director, to show the coverage of the director's professional knowledge and disclose their compensation. For example, artificial intelligence algorithms, semiconductor manufacturing, and decision-making accuracy capabilities. It is even more necessary to use heat maps to compare NVIDIA's compensation structure with that of companies of the same type such as AMD and Intel, and to display the salary distribution strategy in real time to enhance industry competitiveness.

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5. Conclusion

This study has identified three key issues regarding the compensation of non-employee directors at NVIDIA: an unscientific strategic allocation, insufficient long-term incentives, and low transparency. The solutions include linking compensation to the research and development stage, adopting AI-driven assessment tools, and enhancing information disclosure.

This research can expand the theory of corporate governance at the theoretical level, highlighting the value of non-employee directors' knowledge capital in technology companies. Moreover, it can provide a model for salary optimization strategies in the semiconductor and artificial intelligence industries in practical terms, helping enterprises balance short-term profits with long-term innovation.

As artificial intelligence reshapes human resource practices, although multi-dimensional research on non-employee director compensation can better address existing issues, its sample is relatively limited and may lack inspiration for small and medium-sized technology enterprises. Therefore, technology companies such as NVIDIA should explore personalized compensation systems based on artificial intelligence, match them with their artificial intelligence strategies, and conduct cross-cultural comparisons of governance models for technology companies with a focus on the future. They should call on the practical community to go beyond the mindset of cost control and view non-employee director compensation as a technological strategic investment. Through dynamic mechanism design, they should unleash governance efficiency.

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