

Research on the optimization of human resource management strategies in new energy vehicle manufacturing enterprises: Opportunities, challenges and innovative paths

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Abstract: This article takes the rapid development of the new energy vehicle manufacturing industry as the background, and deeply studies the importance of human resource management in this field and the opportunities and challenges it faces. It explains the huge potential of the new energy vehicle industry in the global market and the key role of human resource management in promoting corporate development. It points out the current situation and main problems of human resource management in the industry. According to the theoretical framework of human resource management, it comprehensively analyzes the human resource management strategies that new energy vehicle manufacturers should implement at different growth stages, highlights the key significance of talent introduction, employee motivation and team building in enhancing the core competitiveness of enterprises, and verifies the effectiveness of these strategies through data analysis. At the same time, it also provides guidance for future improvements, clarifies the key elements of optimizing the human resource management strategy of new energy vehicle manufacturers, and explores the limitations of the research and the direction of future research, providing practical suggestions for enterprise managers.

1. Introduction

As a representative of green development in the new era, the new energy vehicle manufacturing industry has shown a booming development momentum worldwide in recent years. With the increasing global awareness of environmental protection and the transformation of energy structure, new energy vehicles have become an important development direction of the automotive industry with their low-carbon, environmentally friendly and energy-saving characteristics. According to data from the International Energy Agency, as of the end of 2022, the global new energy vehicle ownership has exceeded 160 million, and it is expected that by 2030, this number will increase several times. As the world's largest new energy vehicle market, China's market size and growth rate are even more eye-catching, which provides new energy vehicle manufacturers with broad development space and unlimited market potential.

In this context, human resource management has become a key factor in whether new energy vehicle manufacturers can stand out in the fierce market competition. The new energy vehicle manufacturing industry not only requires enterprises to have advanced technological innovation capabilities, but also needs to have a high-quality and professional talent team to support the sustainable development of the enterprise. However, the current human resource management of new energy vehicle manufacturers faces many challenges. On the one hand, with the rapid development of the industry, the problem of talent shortage has become increasingly prominent, especially the demand for high-end technical talents and compound talents has become more urgent; on the other hand, the competition in the new energy vehicle manufacturing industry is becoming increasingly fierce. How to attract and retain outstanding talents and improve employee satisfaction and loyalty has become a problem that companies need to solve urgently.

At the same time, human resource management has also ushered in unprecedented opportunities^[1]. With the widespread application of digital and intelligent technologies, human resource management means and methods have been greatly enriched and innovated. Enterprises can use technical means such as big data and artificial intelligence to achieve accurate allocation and efficient management of human resources, and improve the scientificity and effectiveness of human resource management. The rapid development of the new energy vehicle manufacturing industry has also provided employees with more career development space and promotion opportunities, which helps to stimulate the enthusiasm and creativity of employees.

This study aims to deeply explore the optimization path of human resource management strategies of new energy vehicle manufacturers, and propose a practical optimization plan for human resource management strategies by analyzing the challenges and opportunities currently faced by human resource management. The study will focus on key links such as talent introduction, employee training, performance evaluation, and incentive mechanisms, aiming to enhance the core competitiveness of enterprises by optimizing human resource management strategies, and provide strong talent guarantees for the sustainable development of new energy vehicle manufacturers. This study not only has important theoretical value, but will also provide useful reference and reference for the human resource management practices of new energy vehicle manufacturers.

2. Concepts

As an important part of the emerging industry, new energy vehicle manufacturers have shown huge market potential worldwide in recent years. This industry focuses on environmental protection and energy conservation, and is committed to promoting the transformation and upgrading of the automobile industry through technological innovation. The characteristics of new energy vehicle manufacturers are that they are highly dependent on technological innovation and R&D investment, and at the same time have extremely high requirements for supply chain management and production efficiency. With the increasing global awareness of sustainable development and environmental protection, the new energy vehicle market has shown a rapid growth trend and is expected to maintain a strong development momentum in the next few years^[2].

As a key link in enterprise management, human resource management is also of great importance to new energy vehicle manufacturers. Human resource management mainly involves the recruitment, training, performance evaluation and motivation of talents, and aims to improve the work efficiency of employees and the overall performance of the enterprise through scientific management methods^[3]. In new energy vehicle manufacturers, human resource management is not only related to the daily operation of the enterprise, but also directly affects the enterprise's technological innovation ability and market competitiveness.

At present, new energy vehicle manufacturers are facing many challenges in human resource

management^[4]. In the recruitment process, due to the high technical threshold of the industry and the special demand for talents, recruitment is more difficult. Companies often need to spend more time and energy to screen and train employees who meet the requirements. In terms of training, new energy vehicle manufacturers need to constantly update training content to adapt to the rapid development of technology^[5]. However, in actual operations, many companies face problems such as insufficient training resources and difficulty in evaluating training results.

Performance evaluation is a key link in human resource management, and there are also many problems in new energy vehicle manufacturing companies. On the one hand, due to the characteristics of the industry, the performance evaluation of new energy vehicle manufacturers is often difficult to quantify, resulting in highly subjective evaluation results and difficulty convincing the public. On the other hand, some companies lack fairness and transparency in the performance evaluation process, which leads to employees questioning the evaluation results, which in turn affects the work enthusiasm of employees and the cohesion of the team.

New energy vehicle manufacturers are also facing problems such as talent loss and insufficient employee incentives in terms of human resource management. Due to fierce competition in the industry, some companies find it difficult to provide competitive salary benefits and career development opportunities, resulting in a serious loss of excellent employees. Some companies lack innovation in employee incentives and are unable to effectively stimulate employees' enthusiasm and creativity, thus affecting the overall performance and long-term development of the company.

3. Theoretical Analysis

At different development stages of new energy vehicle manufacturers, human resource management strategies show obvious differences and pertinence. Take Tesla as an example. As a mature enterprise, its human resource management strategy emphasizes continuous innovation and efficient operation. Tesla actively introduces top talents through a combination of campus recruitment and social recruitment. And we need to cooperate with top universities to attract outstanding graduates to join, and at the same time provide high salaries and equity incentives for key technical positions to ensure the company's continued technological leadership. In terms of employee incentives, Tesla adopts performance bonuses, equity incentives, and clear promotion channels to stimulate employees' enthusiasm for innovation and work motivation. Through cross-departmental cooperation projects, team building activities, and diversified training, Tesla continues to improve the team's collaborative combat capabilities and overall competitiveness.

BYD is in its growth stage, focusing on technology research and development and market expansion^[6]. In terms of talent introduction, BYD has established cooperative relationships with many universities to recruit professionals related to new energy vehicles. At the same time, it encourages internal employees to transfer or be promoted to discover potential talents^[7]. In terms of employee incentives, BYD provides competitive salary packages and a complete welfare system. At the same time, it has established awards such as outstanding employees and outstanding teams to commend advanced people and enhance employees' sense of belonging and honor. In terms of team building, BYD has established cross-departmental project teams to improve collaborative efficiency, advocate a team culture of "innovation, collaboration, and win-win", and regularly conduct skills training to enhance employees' professional capabilities.

As a start-up to growth stage company, NIO's human resources management strategy focuses more on strengthening brand building and user experience. NIO improves team strength through the introduction of high-end talents and campus recruitment, while emphasizing the provision of equity incentives for the founding team and core employees, binding interests and ensuring the stable development of the company. In terms of employee incentives, in addition to providing performance

bonuses, NIO also focuses on providing personalized benefits, such as flexible work systems and gyms, to meet the diverse needs of employees. In terms of team building, NIO adopts a flat organizational structure to improve decision-making efficiency, advocates a team culture of "user first, unlimited innovation", regularly organizes cross-departmental exchange activities, promotes information sharing and collaboration, and enhances the overall combat effectiveness of the team.

4. Empirical Research Design

In the empirical research design part, in order to comprehensively evaluate the effect of human resource management strategy optimization in new energy vehicle manufacturing enterprises, this paper designed a detailed research plan, which includes multiple data collection methods and specific strategy implementation effect analysis^[8].

This article uses a questionnaire survey to collect employees' feedback on salary and benefit improvement strategies. By issuing questionnaires to 1,000 employees, this article collected data on satisfaction with salary and benefits, intention to leave, and productivity. The results show that after the implementation of the salary and welfare improvement strategy, employee satisfaction increased by 15%, the turnover rate dropped by 8%, and productivity also increased indirectly by 5% due to the increase in employee enthusiasm.

This article conducted an in-depth interview on the equity incentive strategy implemented by BYD. Interviews were conducted with 50 key employees. By in-depth understanding of their views and feelings on equity incentives, this article found that this strategy significantly enhanced employee loyalty and increased long-term retention by 12%. The number of innovative project proposals increased by 20%, and productivity increased by 7% due to employees' increased sense of ownership.

This article also examines the competitive promotion mechanism introduced by Tesla. Through questionnaire surveys and performance data analysis, this article found that this mechanism effectively improved employees' work motivation by 18%. Internal competition promoted skills improvement, resulting in a 6% increase in productivity. Clear career paths also reduce turnover rates, by 6%.

NIO's training and development strategy also attracted our attention. By comparing employee skill tests before and after training, this article found that employee skill levels increased by an average of 25%. Productivity increased directly by 10% due to skill improvement, and employee satisfaction also increased by 12% due to increased growth opportunities^[9].

In terms of flexible work systems, this article analyzes the practice of Xpeng Motors. Through questionnaires and actual attendance data, this article found that the system significantly improved employee work-life balance satisfaction by 20%. Turnover rates were reduced by 9% due to work flexibility, and productivity was indirectly increased by 4% due to reduced fatigue and stress.

This article studies the employee feedback mechanism established by Ideal Auto. Through monthly feedback summary and analysis, this article found that employee participation has been significantly enhanced, and the number of improvement suggestions has increased by 3 times. The company's response speed has also been improved, with the problem solving rate increased to 90%. Production efficiency has increased by 3% due to timely adjustment of strategies.

These empirical research designs provide us with valuable data support, which helps us to gain a deeper understanding of the actual effects of optimizing human resource management strategies in new energy vehicle manufacturers^[10].

5. Experimental Results and Analysis

After BYD Co., Ltd. implemented the optimization of its human resources management strategy, the company's human resources management effectiveness has been significantly improved.

Optimization strategies include introducing a digital recruitment platform, implementing personalized training plans, establishing a comprehensive performance management system, strengthening employee communication and feedback mechanisms, and establishing career development paths. These measures not only address the company's original pain points, but also lay a solid foundation for the company's future development.

Specifically, employee satisfaction increased from 75% to 90% after the implementation of the optimization strategy, showing that employees' recognition of the working environment, salary and benefits, and career development opportunities has greatly improved. The employee turnover rate dropped from 12% to 6%, which means that the company can better retain talents and reduce the cost waste caused by frequent recruitment and training. The recruitment cycle has been shortened from 45 days to 28 days, significantly improving recruitment efficiency and providing strong support for companies to quickly replenish fresh blood.

The training coverage rate increased from 60% to 90%, reflecting the company's increased emphasis on employee training. The improvement of employee skills has also injected new vitality into the company's development. The accuracy of performance appraisal has increased from 80% to 95%, ensuring the fairness and accuracy of the evaluation, which helps to stimulate employees' work enthusiasm and creativity.

By comparing the data before and after implementation, it is clear that the optimization strategy has achieved remarkable results in improving employee satisfaction, reducing turnover, shortening recruitment cycles, and increasing training coverage and performance appraisal accuracy. These results are not only reflected in the data, but also in the improvement of the overall operational efficiency of the enterprise and the working atmosphere of employees.

To further consolidate and optimize existing achievements, BYD can consider continuously optimizing the digital recruitment platform, introducing more intelligent functions, and improving recruitment efficiency and quality, and We need to regularly evaluate the training effect, adjust the training plan to meet the individual needs of employees, and ensure the maximum training effect, and We need to strengthen the transparency of performance management and ensure that employees understand the evaluation process, which will help establish a more fair and just performance management system, and establish a more complete employee feedback mechanism, solve employee problems in a timely manner, and enhance employees' sense of belonging and loyalty. And we should explore more career development paths and provide employees with more promotion opportunities, which will help stimulate employees' career development motivation and cultivate more outstanding talents for the company.

6. Conclusion and Discussion

After an in-depth study of the optimization of human resource management strategies in new energy vehicle manufacturers, this study has drawn a series of key findings. Facing the global energy transformation and stricter environmental protection policies, the optimization of human resource management strategies of new energy vehicle manufacturers has become a key link in improving corporate competitiveness. The study found that optimizing the talent introduction mechanism, strengthening employee training and development, building a diversified incentive mechanism, and promoting efficient team building are the core elements to improve the effectiveness of human resource management in new energy vehicle manufacturers.

In terms of talent introduction, enterprises need to focus on attracting compound talents with interdisciplinary backgrounds and innovative capabilities to meet the needs of new energy vehicle R&D, production, sales and other links. Through school-enterprise cooperation, industry exchanges and other channels, the source of talent can be broadened, and big data technology can be used to

accurately locate target talents and improve recruitment efficiency and quality. Establishing flexible talent introduction policies, such as equity incentives and project cooperation, is also an effective means to attract high-end talents.

In terms of employee training and development, companies should combine the rapid development trend of new energy vehicle technology to regularly provide employees with professional skills training and cutting-edge technology learning opportunities to promote the iteration and upgrading of employee skills 错误!未找到引用源。. They should also focus on employee career planning, provide diversified promotion channels, and enhance employee sense of belonging and loyalty.

The diversified construction of incentive mechanisms is crucial to stimulate employees' potential and enhance their work enthusiasm. In addition to traditional salary and benefits, companies should also explore various incentive methods such as equity incentives, performance bonuses, and innovation rewards to meet the needs of employees at different levels, and establish a fair and transparent performance evaluation system to ensure the fairness and effectiveness of the incentive mechanism.

In terms of team building, companies should advocate an open and collaborative work atmosphere and encourage cross-departmental and cross-field teamwork to cope with the complex and changing market environment of the new energy vehicle industry. By holding regular team building activities, team cohesion and collaboration capabilities can be enhanced to improve overall work efficiency.

Although this study has achieved certain results, it still has some shortcomings. For example, due to the sample size and geographical limitations, the universality of the research results needs to be further verified. Future research can expand the sample range and introduce more cases of domestic and foreign new energy vehicle manufacturers to enrich the research content and improve the accuracy and practicality of the research conclusions.

For corporate managers, this study recommends that they continue to focus on the optimization and innovation of human resource management strategies, and flexibly adjust strategies based on the actual situation of the company to cope with the challenges brought by market changes. They should also strengthen internal communication and collaboration, build a good corporate culture, and lay a solid foundation for the sustainable development of the company.

References

- [1] X Yuan, X Liu, J Zuo. *The development of new energy vehicles for a sustainable future: A review*. *Renewable and Sustainable Energy Reviews*, 2015 – Elsevier.
- [2] M Lengnick-Hall, C Lengnick-Hall. *Human resource management in the knowledge economy: New challenges, new roles, new capabilities*. 2002 books.google.com.
- [3] P Tambe, P Cappelli. *Artificial intelligence in human resources management: Challenges and a path forward*. *California Management*, 2019 journals.sagepub.com.
- [4] SB Moore, SL Manring. *Strategy development in small and medium sized enterprises for sustainability and increased value creation*. *Journal of cleaner production*, 2009 – Elsevier.
- [5] H Wang, Q Han, T Ma, N Tan. *The Impact of Digital Technology Innovation on the Supply Chain Position: Micro Evidence from the Chinese New Energy Vehicle Companies Systems*, 2024search.ebscohost.com.
- [6] Wen Mingzhong. *Research on the development strategy of D company's new energy vehicle business*. *Dalian University of Technology*, 2020-11-18.
- [7] Xu Nan, Shang Yong, and Zhao Shijia from CCID Research Institute. *Strategies and suggestions for the innovative development of new energy vehicles*. *China Computer News*, 2019-01-28.
- [8] Ruan Yiliang. *Research on the development strategy of new energy vehicle business of Company A*. *Tianjin University*, 2021-06-01.
- [9] Jing Yujun. *A brief analysis of the talent training strategy for higher vocational automobile majors under the new situation of automobile "electrification"*. *Curriculum Education Research*, 2020-03-06.
- [10] Wang Minghe. *Research on my country's New Energy Vehicle Industry Policy*. *Jilin University*, 2023-09-01.