

Take the Manufacturing Enterprise Management Optimization Measure - HJ Enterprise As An Example

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Abstract:

As the main carrier of power transmission and distribution, wire and cable shoulder the function of supporting the pillar of national economy for all walks of life. After the 21st century, with the acceleration of power grid transformation process, ultra-high voltage projects have been put into construction and the global wire and cable industry began to shift to the Asia-Pacific region dominated by China, China's cable industry market scale rapidly expanded, to 2011 China's wire and cable industry scale exceeded the United States for the first time to become the world's largest wire and cable market. This paper will focus on HJ Company, analyze the problems existing in manufacturing enterprises, and propose solutions to promote their development.

Keywords:

Business Administration, Optimization Measures

1. Introduction

China's wire and cable industry chain has been more mature, the upstream is mainly responsible for the supply of raw materials, such as the basic material industry to provide product raw materials and the rubber industry to manufacture cross-linked insulation sheathing materials; The middle part is the field of wire and cable manufacturing, which can provide all types of cables such as power cables and bare wires; The downstream is its application field, the main application fields are construction machinery, communication industry, power industry, etc. Cable industry after years of development, the overall scale of the industry, technical level and localization capacity has been rapidly improved, in addition to a small number of special materials and cables rely on imports, most of the cables can be realized localization. Although China's cable industry has a high production capacity, the current situation of supply and demand polarization in the industry. Cable manufacturers in the middle of the industry mainly produce low value-added medium and low voltage cables, and their production capacity has been excessive, but the supply capacity of high-end products is insufficient, and they mainly rely on imports

[1]. The technology gap in the midstream is directly reflected in the downstream application field.

2. Enterprise introduction

2.1. Business Background

HJ Company is a professional manufacturer of wire and cable in Hunan province, which integrates research and development, production and sales. After decades of deep cultivation, it has five cable bases in Changsha, Hengyang, Chengdu, Wuhan and Nanchang, and two flat electromagnetic wire production bases in Xiangtan and Wuxi.

The company's main products are mainly divided into three categories: electromagnetic wire, wire and cable, which are used in a variety of fields, and provide a large number of stable and reliable high-quality products and services for ultra-high voltage power grid, high-speed railway and urban rail transit, national smart energy system, national strategic channel of "north coal transportation to South", wind power generation, nuclear power construction, automobile industry and major government engineering projects [2]. Good reputation has won the trust of many well-known customers, with a number of power grid enterprises, transmission and transformation equipment enterprises, large central enterprises and state-owned enterprises as the main high-end customer base, and has established long-term and stable cooperative relations with them.

HJ company has been deeply engaged in the wire and cable industry for more than 70 years, and has accumulated rich experience in operation, production and management through long-term practical experience. It always adheres to promoting development through innovation, improving the technical content and added value of products through independent research and development, and constantly improving the technical level and comprehensive competitiveness of enterprises with the help of acquisitions and mergers in the capital market. Has grown into "flat electromagnetic wire global leader", "cable industry advantage enterprise". In addition, years of integrity management has also accumulated good social reputation and public trust for the company, has won the highest award in China's wire and cable industry "Silver Award", "National Quality Benchmark Enterprise", "National key high-tech Enterprise", "National contract keeping, credit enterprise", China well-known trademark and many other honors.

The company's products are divided into three categories: electromagnetic wire, wire and cable, covering hundreds of varieties and nearly 10,000 specifications, and continues to develop aluminum alloy cable, rail transit cable, irradiation cable, high temperature cable, locomotive and vehicle cable, environmental protection and fire protection cable, construction machinery special cable, ultra-high voltage electromagnetic wire and new energy vehicle drive motor flat electromagnetic wire and other new products. Formed a series, scale, complete set of product structure. Rich product categories can meet customers' one-stop and customized procurement needs.

In 2022, HJ Company achieved sales of 57,228.26 tons of flat electromagnetic wires, up 17.27% year on year, among which the operating revenue of the new energy industry exceeded 700 million yuan. The total sales scale of flat electromagnetic wire of HJ Company is leading in the field of flat electromagnetic wire in China and even

in the world. At the same time, the company will concentrate its resources to implement the second phase of expansion construction of flat electromagnetic wire for new energy vehicle drive motor, which is expected to be put into production in the second quarter of 2023. By then, the total annual production capacity of the first and second phases of electromagnetic wire for new energy vehicle motor will reach 20,000 tons. HJ Company successfully purchased the construction land for Phase III project of flat electromagnetic wire for driving motors of new energy vehicles in October 2022; Wuxi Tongli completed the new expansion of the plant and the construction of the coil workshop, with an additional capacity of 5,000 tons. In addition, HJ Cloud cold chain won the national name card of Changsha National backbone Cold chain Logistics Base; In terms of operation, Yunleng sector contracted the food trading business, fully digested the backlog of pork inventory in the early stage, returned to the main line of property asset appreciation and business operation appreciation, and realized the performance of turning losses into profits, achieving a net profit of 5,965,400 yuan.

2.2. Development Strategy

HJ company always takes the market as the forward direction, leads the development of the company with technology, and constantly builds its core competitiveness for the rapid occupation of the high-end market in the cable industry. Through forging first-class management ability to shape the corporate culture with HJ company characteristics, and on the basis of realizing the steady development of the company do not forget to continue to expand its own scale. In addition, HJ company uses the “core” power to complement the construction of new energy and cold chain system in the cable home page, have the courage to assume industrial responsibility, social responsibility and national responsibility, link the future dry trillion new market, and realize the grand vision of industry gold Cup and centennial Gold Cup. In 2022, HJ Company achieved sales of 57,228.26 tons of flat electromagnetic wires, up 17.27% year on year, among which the operating revenue of the new energy industry exceeded 700 million yuan. The total sales scale of flat electromagnetic wire of HJ Company is leading in the field of flat electromagnetic wire in China and even in the world. At the same time, the company will concentrate its resources to implement the second phase of expansion construction of flat electromagnetic wire for new energy vehicle drive motor, which is expected to be put into production in the second quarter of 2023. By then, the total annual production capacity of the first and second phases of electromagnetic wire for new energy vehicle motor will reach 20,000 tons. In October 2022, HJ Company successfully purchased the construction land for Phase III project of flat electromagnetic wire for driving motors of new energy vehicles; Wuxi Tongli completed the new expansion of the plant and the construction of the coil workshop, with an additional capacity of 5,000 tons. In addition, HJ Cloud cold chain won the national name card of Changsha National backbone Cold chain Logistics Base; In terms of operation, Yunleng sector contracted the food trading business, fully digested the backlog of pork inventory in the early stage, returned to the main line of property asset appreciation and business operation appreciation, and realized the performance of turning losses into profits, achieving a net profit of 5,965,400 yuan.

The future development strategy of HJ company is to further focus on cable as the main line, further consolidate the management foundation with information and automation, accelerate the upgrading of products and cultivate new profit growth points while strengthening the integration and linkage of internal resources. Establish

the industry “golden cup” of continuous innovation in the field of cable, and become the promoter of intelligent cable manufacturing. In addition, in the cold chain logistics industry, to “Huxiang people’s food Basket project” as the mission to protect people’s livelihood food safety. With the blueprint of “Changsha city refrigerator” and the mission of protecting the health and safety of Huxiang people’s food basket project, Yunleng No.1 has invested 1.2 billion yuan to build a comprehensive and modern agricultural market integrating agricultural products trading, storage, logistics, e-commerce, trade and finance. It is a key strategic development project for the transformation from “Gold Cup manufacturing” to “gold cup service”. Based on the “Belt and Road” strategy of cold chain hub and cross-border logistics link, the project strives to build “China’s leading cold chain platform”.

In the new energy industry, green travel, intelligent transportation, accelerate the layout of new energy vehicle rear market. Under the background of the state's strong support for the development of the new energy vehicle industry, the company keeps up with the trend of The Times, grasped the opportunity, transformed and upgraded, gathered strong strength, made breakthroughs with high frequency of behavior, carried out the industrial layout of “new energy vehicle operation + charging facility operation + automobile aftermarket”, and opened up a new pattern for the company in the new energy industry.

2.3. The Company’s Innovation Advantage

HJ Company has made excellent results in science and technology in recent years: since 2018, the number of patents it has applied for and the number of patents authorized have been on the rise, and in 2022, it established “Hunan High-end Special Electromagnetic Wire Engineering Technology Research Center” according to the “Notice on Project Establishment of Hunan Engineering Technology Research Center” issued by Hunan Provincial Department of Science and Technology. In order to break foreign technical barriers, promote the improvement of the technical level of the industry, form the core products with independent intellectual property rights of our country, and make great progress in order to fill the gap of the key materials of high-end special electromagnetic wire in China.

After years of technology accumulation and continuous research and development investment, HJ company has a scientific research team that can independently undertake technology development projects, focusing on the development of a number of sophisticated flagship products, and participated in and drafted a number of national standards and industry standards. In addition, the company has the only provincial engineering technology research center engaged in the research and development of a full range of wire and cable technology in Hunan Province, and has established long-term strategic cooperative relations with National University of Defense Science and Technology, Central South University and other research institutes.

In addition, HJ has also trained a group of high-quality professional and technical personnel. Since 2018, the number of its R&D personnel has been on the rise, and the proportion reached the peak in 2020. It can be seen that HJ company has strong innovation resources both internally and externally to ensure the continuous input of scientific and technological innovation. In 2023, HJ Company will continue to vigorously deepen investment in research and development, and formulate a series of plans to promote technological innovation, accelerate the upgrading of product

structure, help industrial energy conservation and emission reduction, and promote intelligent manufacturing faster.

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2.4. Financial sharing center

In order to seek transformation and upgrading and strengthen financial control, HJ launched the ERP upgrade project in 2019. After the selection analysis and field investigation of the four suppliers, the group finally determined Yonyou as a partner and deployed relevant work. According to the arrangement of the group project team, Hengyang Business Division started the work in February 2020. Until this year, HJ company has realized a unified, flexible and scalable digital enterprise management platform with NC-ERP as the core, and built a financial sharing center supported by the data center system through the construction of information data system.

Through the financial sharing center, enterprises play the integration of industry and finance, help enterprises to solve the problems of cost surge, loose management, low capital utilization, and realize the basic file management, procurement management, sales management, inventory management, barcode management, and financial management. Realize the organization of order receiving, procurement, production, shipment, accounting and processing on the same platform, and build a resource sharing, information transparency, planning coordination, and support the future information development platform.

The financial sharing center promotes the integrity of the functions of each business system and the accurate application of data, realizes enterprise data mining, analysis and prediction, reflects the value of data, and adds a fire to scientific and technological innovation.

3. Problem is Management

3.1. Slow circulation of management cooperation and imperfect operation mechanism

In HJ Company, its management operation mechanism is relatively perfect, but its management coordination mechanism has a relatively low degree of attention, which leads to the fact that the process operation in the enterprise and the communication between various departments of the enterprise have not reached the ideal state, and there is room for improvement.

The cooperation between departments in an enterprise is the key to the long-term development of the enterprise. [3]For example, as mentioned in the previous section, due to untimely communication, the scientific research department and the financial department will form information islands in terms of budget. The main reason for the problems in information communication between departments may be that the systems used by each department are different. The master data of HJ company, such as data information of organization, personnel, customers, suppliers and materials, are not uniformly managed, and the departments responsible for data are scattered, and their management processes are also different. For example, the customer data of HJ company has the problems of low data quality, no unified standard at the group level, and the lack of unified management mechanism. In addition to customer data, there are suppliers, materials and other data also have some problems. In addition, the coordination and management ability between departments is also very important. By clarifying the positioning of various departments in the enterprise, coordinating the allocation of resources, it can greatly promote the scientific and technological progress and development of enterprises.

3.2. The incentive mechanism is not unified and the incentive method is unitary

The company's current incentive mechanism lacks uniformity. HJ Company is mainly located in Hunan Province and has eight production bases. The dispersion of production bases leads to the lack of a unified performance evaluation plan within the group. In addition, HJ Company did not consider the differences between different departments and positions when building the performance evaluation system, resulting in similar evaluation systems and standards for different positions, which made it not fair and adaptable to local conditions. It is difficult to make the incentive mechanism play a positive role in promoting the group, which leads to the outflow of talents and reduces the market competitiveness of enterprises. In the whole group, only when the performance evaluation becomes transparent and unified can the upward channel of employees be opened, and more employees will be encouraged to invest in scientific and technological innovation.[4]

3.3. The demand for compound talents is large, and the transformation of financial personnel is slow

In the digital age, the daily use of tables and large amounts of financial data will reduce the need for traditional accounting, which will gradually be replaced by AI. The new financial personnel should be professional and compound talents who understand business, fine technology, good analysis and risk control. And in the context of the integration of industry and finance, financial personnel do not need to have the three abilities of "finance", "intelligence" and "number". "Finance" requires financial personnel not only to be limited to financial accounting and raw data, but

also to deeply understand the project situation of the department and provide demand reports to various businesses with the latest technology. "Intelligence" requires financial personnel to master new technologies represented by "big intelligence moving cloud things". "Number" requires financial personnel to have the ability to make big data decisions, model, extract, calculate and predict sleeping data, and improve the practicality of financial analysis. [5] However, in HJ company, some financial personnel still lack the awareness of transformation, and only stay in the old thinking of only needing to keep accounts, do not adapt to the new model and new requirements, and do not have the ability of decision-making and management. This is the part that HJ company needs to focus on improving in the future.

4. Optimization Measure

In order to improve the enterprise information ability and help scientific and technological innovation, the financial sharing center is the only way. The financial sharing center can not only intelligently process the financial simple and repetitive work, but also improve the efficiency of the enterprise business process, break the information island between departments and different production bases, and help the integration of enterprise industry and finance.[6] In addition, relying on the data center system, it can also make the incentive mechanism within the group unified and transparent, standardize the promotion process of the enterprise, and motivate employees to maximize the motivation of innovation.

4.1. *Continue to promote customized systems to ensure the integration of the Group*

In view of the problem of poor communication between departments in the enterprise, the customized U8 system of HJ Company has been implemented within the scope of the company. The system integrates HJ company's finance, production management, supply chain, inventory, procurement, sales and other businesses into it to realize financial computerization and financial informatization. Improving the timeliness of communication will also improve the effectiveness of information, and the degree of cooperation between departments has also been greatly strengthened. However, due to the lack of time and intensity, the integration process is slow. [7]

In view of the data management mode, HJ company should change the existing decentralized data management mode to achieve unified and centralized data management and control. In terms of management organization, the master data operation team is set up to centrally manage the master data, regularly review the data quality, and continuously improve the quality of enterprise data. In terms of data standards, unified master data classification, coding and data model standards are established to lay a foundation for the interconnection of core data of each system. In terms of management process, the data management and maintenance process in line with the current situation of Jinbei Electrician management and business is established to realize the standardized management of master data. In terms of information integration, master data management platform, enterprise service bus and other tools are used to realize the integration and sharing of master data of each system.[8]

4.2. *Flexible design of incentive mechanism to attract scientific research talents*

First of all, HJ company should rely on the financial sharing center to improve the incentive mechanism. The system makes a horizontal comparison between the situation of employees in different production bases and the situation of enterprises, which can intuitively see the ratio of enterprise cost and budget investment, the ratio

of resources and output, the situation of fund management and use, the situation of decision-making and realization, etc., and can objectively reflect the completion of employee performance. [9]It breaks through the information island and time difference caused by space problems and realizes the integration of the incentive mechanism of the whole group. In addition, it can also be designed by a special responsible organization: for different positions, different performance evaluation systems can be set up according to their work content and contribution degree. Professionals can also be hired to guide the incentive mechanism of the enterprise, as much as possible to achieve uniformity and scientific.

Especially in terms of incentives for scientific research personnel, we should implement incentives for the transformation of scientific and technological achievements, and measure the contribution of each scientific and technological personnel. In addition, it is necessary to formulate a multi-factor incentive distribution system, adopt the way of combining incentive and assessment, and form a separate payment of incentive bonuses and salaries for the transformation of scientific and technological achievements, so as to ensure that the transformation of scientific and technological achievements really plays an incentive role and encourage researchers to actively participate in the transformation of achievements.[10]

In terms of incentive methods, HJ companies need to focus on flexibility. Not only material encouragement is needed, but also spiritual encouragement can be appropriately added. The selection of honor awards, overseas study opportunities, paid leave, public travel and so on are positive incentives for employees, which can bring honor and responsibility to employees, turn them into driving forces, and contribute their own strength to the development of enterprises. For the core management, HJ Company can consider implementing the restricted stock incentive plan to grasp the core employees in its own hands, promote the virtuous cycle of incentive mechanism and technological innovation, and improve the cohesion between employees and the enterprise.

4.3. Cultivate financial intelligence and digital talents to reserve the army for the enterprise

For the slow transformation of financial personnel, there are three solutions: first, enterprises should pay attention to the process of financial transformation and the importance of financial personnel in the integration of business and finance. Do a good job in professional training regularly, focus on professional skills training activities, improve the knowledge system of existing financial personnel, change their thinking, speed up the transformation of financial personnel, and cultivate excellent talents. Secondly, enterprises can focus on colleges and universities. At the same time, colleges and universities have enterprise simulation practice simulation courses to strengthen the work of simulating intelligent finance links. Therefore, enterprises may wish to look to universities when looking for new financial personnel to cultivate the reserve army. Finally, within the enterprise, financial personnel should cultivate strategic thinking, have the foresight of the industry, and analyze information from a global perspective, rather than focusing only on the current data and statements. It should also analyze according to the actual business progress and actual differences, assist other departments to trace back to the source and put forward optimization and improvement plans .

4.4. Strengthen the transformation degree of scientific research, and realize the integration of industry and finance

In terms of scientific research transformation, enterprises should fully conduct market research at the initial stage of research to improve the feasibility of the transformation of scientific and technological achievements. The fundamental reason for the low proportion of enterprise patent investment lies in that there is no market demand-oriented transformation system, and researchers lack of understanding of the industry analysis and evaluation performance before the transformation work. In order to improve the feasibility of achievement transformation, researchers need to strengthen their understanding of the market situation, get rid of the inherent thinking mode based on theory, and establish a new market-oriented thinking mode. At the same time, we can also grasp the market wind direction through professional market-oriented personnel in the preliminary research work, so as to improve the feasibility of the transformation of scientific and technological achievements. In addition, the data integration platform can be interconnected to accelerate the flow of information among the systems of various group platforms. The group integration platform can accelerate the process of the group's industry and financial integration, and promote scientific and technological research and development can better fit the overall strategy.

5. Conclusions

Through the above exploration, it is found that there are still some problems in the management of HJ company, mainly in human resource management, scientific research incentive and talent lack. Through the three proposed schemes, HJ company can optimize the business management, improve the management efficiency and competitiveness, and achieve sustainable development. These suggestions not only enable HJ company's scientific and technological innovation and financial system to be more closely combined to play a better synergistic role, but also have reference significance for other traditional manufacturing industries how to achieve high-quality development based on scientific and technological innovation.

Conflicts of Interest

The author declares that there is no conflict of interest regarding the publication of this article.

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References

- [1] Li, L. Research on the Innovation of Strategic Management in Modern Business Management. *Accounting and Corporate Management*, 2022, 4(7),22-26.
- [2] Jingwu, Y. Analysis on the Path of Enterprise Management Innovation under the New Normal. *Applied Science and Innovative Research*, 2022, 6(4),162-164.
- [3] Yu, C.; Wang, Y.; Li, T. et al. Do top management teams' expectations and support drive management innovation in small and medium-sized enterprises? *Journal of Business Research*, 2022, 142, 88-99.

- [4] Bulturbayevich, M.B. Development of innovative activities of enterprises on the basis of vertical integration processes. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, 2021, 12(10), 5020-5031.
- [5] Hanaysha, J.R.; Al-Shaikh, M.E, Joghee, S, et al. Impact of innovation capabilities on business sustainability in small and medium enterprises. *FIIB Business Review*, 2022, 11(1), 67-78.
- [6] Frangopol, D.M.; Liu, M. Maintenance and management of civil infrastructure based on condition, safety, optimization, and life-cycle cost. *Structures and Infrastructure Systems*, 2019, 96-108.
- [7] Dickinson, M.W.; Thornton, A.C.; Graves, S. Technology portfolio management: optimizing interdependent projects over multiple time periods. *IEEE Transactions on engineering management*, 2001, 48(4), 518-527.
- [8] Clemente-Almendros, J.A.; Nicoara-Popescu, D.; Pastor-Sanz, I. Digital transformation in SMEs: Understanding its determinants and size heterogeneity. *Technology in Society*, 2024, 77, 102483.
- [9] Zhao, L.; Yuan, H. Digital transformation and the herd effect of corporate green investment. *Finance Research Letters*, 2024, 63, 105244.
- [10] Li, R.; Rao, J.; Wan, L. Performance feedback and enterprise digital transformation. *Applied Economics*, 2023, 1-18.



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