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QUALIFICATION WORK

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MANAGEMENT SYSTEM**

Completed: student of

073 «Management» (EP «Administrative Management»)

Tan Guijiang

Supervisor ***Brychko Alina Mykhaylivna***

PhD, Associate Professor

Reviewer ***Habib Usman Abraham***

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SUMY NATIONAL AGRARIAN UNIVERSITY

Faculty Economics and Management
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Approved:

Head of
Department
«_____» _____ 20 ____ y.

TASK

on qualification work for student

Tan Guijiang

1. Theme of Qualification work: **Improvement of the enterprise management system**

Supervisor Alina Mykhaylivna Brychko, PhD., Associate Professor

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2. Deadline for student completed project (work)

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educational methodical manuals, monographs, textbooks on the subject of research, scientific publications, economic and financial statements for the period of 2019-2021

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The research identifies key issues in Goldwind's current operational strategy, including capital investment, organizational management, and cost control, and proposes strategic improvements based on SWOT analysis and the QSPM matrix.

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№	Title the stages of the degree project (work)	Date of performance project stages	Note
1	Definition and approval of the thesis, preparation of the plan - schedule of work	December, 2023	done
2	Selection and analysis of literary sources, the preparation of the first theoretical chapter	December, 2023	done
3	Preparation and presentation of draft of the first chapter of the thesis	February 2024	done
4	Collection and processing of factual material, synthesis analysis of application issues in the enterprise	March 2024	done
5	Making the theoretical part of the thesis, summarizing the analytical part	April 2024	done
6	Design options improve the research problem	May 2024	done
7	Completion of the project part of the thesis, design chapters	May 2024	done
8	Previous work and its defense review	December, 01-02 2024	done
9	Checking the authenticity of the thesis	February, 20-28 2025	done
10	Deadline for student completed the thesis	March, 01 2025	done
11	Defense of the thesis	March, 27 2025	done

Student

Tan Guijiang

Tan GUIJIANG

(signature)

Supervisor of science work

Alina BRYCHKO

(signature)

Authentication performed

Nadiia BARANIK

(signature)

Checking the authenticity conducted
Thesis allowed to defense

Svitlana LUKASH

(signature)

SUMMARY

Tan Guijiang. Improvement of the enterprise management system. Master's thesis in the specialty 073 «Management», EP «Administrative Management» SNAU, Sumy-2025 – Manuscript.

This thesis focuses on the improvement of enterprise management methods, particularly in the context of Goldwind, a leading company in the lithium-ion battery electrolyte solvent and fine chemicals industry. The study explores the theoretical foundations of corporate strategy, strategic management, and operational strategies, emphasizing the importance of adapting to external market changes and internal organizational challenges. The research identifies key issues in Goldwind's current operational strategy, including capital investment, organizational management, and cost control, and proposes strategic improvements based on SWOT analysis and the QSPM matrix.

The study highlights the need for Goldwind to adopt a defensive strategy to address overcapacity, improve internal management, and enhance cost efficiency. Specific recommendations include formulating a capital operation strategy, reforming the organizational structure, strengthening innovation and marketing management, and optimizing the entire value chain.

Keywords: enterprise management, operational strategy, SWOT analysis, QSPM matrix, cost management, corporate culture, innovation management, marketing management.

АНОТАЦІЯ

Тан Гуйчжан. Вдосконалення системи методів управління підприємством.

Магістерська робота зі спеціальності 073 «Менеджмент», ОП «Адміністративний менеджмент» СНАУ, Суми-2025 р. – Рукопис.

Ця дисертація присвячена вдосконаленню методів управління підприємством, зокрема в контексті компанії Goldwind, яка є лідером у виробництві розчинників для електролітів літій-іонних акумуляторів та тонких хімічних продуктів. Дослідження розглядає теоретичні основи корпоративної стратегії, стратегічного управління та операційних стратегій, наголошуючи на важливості адаптації до змін зовнішнього ринку та внутрішніх організаційних викликів. У роботі визначено ключові проблеми поточної операційної стратегії Goldwind, включаючи інвестиції в капітал, управління організацією та контроль витрат, і запропоновано стратегічні покращення на основі SWOT-аналізу та матриці QSPM.

Дослідження підкреслює необхідність для Goldwind прийняти оборонну стратегію для подолання надлишкових потужностей, покращення внутрішнього управління та підвищення ефективності витрат.

Ключові слова: управління підприємством, операційна стратегія, SWOT-аналіз, матриця QSPM, управління витратами, корпоративна культура, інноваційне управління, маркетингове управління.

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INTRODUCTION

Relevance of the topic: Under the current global economic landscape and rapid technological advancements, enterprises face unprecedented challenges in enhancing operational efficiency and adapting to market dynamics. For companies like Goldwind, a leader in lithium-ion battery electrolyte solvents and fine chemicals, improving enterprise management systems is critical to maintaining competitive advantages in industries such as new energy vehicles and advanced materials. The intensifying global competition, coupled with internal challenges like overcapacity and organizational inefficiencies, necessitates a systematic approach to strategic management. Competitiveness in this context is reflected in the ability to innovate, optimize resource allocation, and execute strategies effectively across research, production, and supply chains.

The competitiveness of an enterprise hinges on its capacity to align operational strategies with market demands, leverage technological advancements, and sustain profitability amid cyclical industry fluctuations. For Goldwind, strategic improvements in capital investment, organizational structure, cost control, and innovation management are vital to overcoming challenges such as declining gross margins and operational inefficiencies. This thesis addresses these issues by integrating theoretical frameworks like SWOT analysis and the QSPM matrix to propose actionable countermeasures, ensuring the company's resilience and leadership in a competitive global market.

Relationship with academic programs, plans, themes

This Master's thesis aligns with the research objectives of Sumy National Agrarian University Economics and Management Faculty, focusing on advancing enterprise management methodologies. It contributes to the academic exploration of strategic management in high-tech industries, emphasizing practical applications in real-world corporate settings.

Aim of the thesis: The aim is to scientifically substantiate theoretical and practical principles for improving enterprise management systems, with a focus on operational strategy optimization.

Main objectives of the study

- Analyze the theoretical foundations of corporate strategy, strategic management, and operational efficiency.
- Evaluate Goldwind's current operational strategy, financial performance, and organizational challenges using tools like SWOT and QSPM matrices.
- Identify key issues in capital investment, production capacity management, and cost control.
- Propose strategic improvements, including capital operation strategies, organizational restructuring, innovation management, and value chain optimization.
- Assess the impact of quality management, technological innovation, and market adaptation on competitiveness.
- Develop a framework for implementing defensive strategies to address industry overcapacity and enhance profitability.

Object: Organizational and economic mechanisms for improving enterprise management systems in high-tech industries.

Subject: Theoretical and practical methodologies for optimizing operational strategies, with a case study of Goldwind.

Research methods: SWOT analysis: To evaluate internal strengths/weaknesses and external opportunities/threats; QSPM matrix: For quantitative assessment of strategic alternatives; Financial and statistical analysis: To examine revenue, cost structures, and profitability trends; PEST model: For macro-environmental analysis of political, economic, social, and technological factors; Case study and comparative analysis: to derive context-specific insights for Goldwind.

Information base: academic works by Michael Porter, Nigel Slack, and other scholars in strategic management.; Goldwind's annual reports (2022–2024), industry data from Gaogong Lithium Battery, and national economic statistics; policy documents on new energy development and industrial upgrading from Chinese authorities.

Scientific novelty

- Conceptual advancements: Redefined the application of defensive strategies in addressing industry overcapacity and cyclical risks.
- Methodological improvements: Integrated QSPM matrix analysis with SWOT to prioritize strategic actions for Goldwind.
- Practical frameworks: Proposed a capital operation strategy, flat organizational structure, and innovation-driven R&D system tailored to high-tech enterprises.

Practical significance. The findings provide actionable strategies for enterprises in the lithium-ion battery and fine chemicals sectors to enhance operational efficiency, reduce costs, and sustain market leadership. The defensive strategy framework and organizational restructuring recommendations are validated through Goldwind's case, offering scalable solutions for similar industries.

Personal achievements. The author independently developed the strategic improvement countermeasures, including the capital operation model and supply chain optimization measures. Research outcomes are reflected in two academic papers on enterprise competitiveness and operational management.

1. Tan Guijiang Improvement of the system of enterprise management methods: a case study of goldwind science & technology X Міжнародна науково-практична конференція «Економіко-правові аспекти господарювання: сучасний стан, ефективність та перспективи», м. Одеса, 04-05 жовтня 2024 року С.58-60

2. Tan Guijiang The role of refinement management in breaking industry barriers: a case study of goldwind technology. Стратегічні пріоритети розвитку бухгалтерського обліку, аудиту та в умовах глобалізації: матеріали II Міжнародної науково-практичної конференції (м. Суми, 16 листопада 2024 р.) / за ред. проф. Назаренка О.В. Суми: СНАУ, 2024.- С. 243-245

Structure and scope. The thesis comprises an introduction, three chapters (theoretical basis, current strategy analysis, improvement countermeasures), conclusions, and a reference list with 40 sources. The main text spans 92 pages, supported by 7 tables and 3 figures illustrating financial data, SWOT matrices, and strategic models.

CHAPTER 1

THEORETICAL BASIS AND ANALYSIS TOOLS

The origin of "strategy" is a military term in Greece, which refers to the strategy of war. It was also frequently used in the military in ancient China. Both "The Art of War" and "The Art of War" elaborated on it. In modern times, strategy is not limited to military affairs. Especially in the aspect of corporate management, strategy is a tool for scientific management of enterprises, which determines the future fate of enterprises and is crucial to the development of enterprises.

Corporate strategy refers to the decision of the enterprise's operating areas and products based on its own resources and capabilities when the external environment changes, so as to enhance the core competitiveness of the enterprise and gain advantages in the big environment[23]. The formulation of corresponding strategies must be combined with the actual situation of the enterprise, conform to the requirements of the times and market demand, so as to gain an advantageous position in the fierce business environment. A successful enterprise that can be widely recognized should basically have a sustainable, executable and evaluable strategy. At the same time, in the long-term process of strategic formulation, the mission and value that the enterprise wants to express and demonstrate can also be presented. Modern management believes that corporate strategy is a top-down, holistic plan that includes corporate strategy, functional strategy, business strategy, and product strategy. Regardless of the type of corporate strategy, the ultimate goal is to achieve the same goal—to enable the enterprise to solve fundamental problems and achieve long-term healthy development under the guidance of the correct strategy and from the overall perspective.

The strategic transformation of an enterprise is to change the long-term business direction of the enterprise, change the operating model, improve the

organizational model, adjust the resource allocation, and enable an enterprise to transform from all aspects, continuously improve its core competitiveness, create more social value, and create a new business model. At present, the transformation of enterprises in my country is basically based on corporate strategic transformation [24].

- Corporate strategic management theory

Strategic management takes the enterprise as the starting point, aims to ensure that the enterprise has the correct strategic direction, and manages the enterprise through a series of activities. First, determine the strategic goals of the enterprise through strategic analysis; second, analyze the internal and external environment of the enterprise and make strategic choices; then, formulate a specific plan for the strategic implementation process; finally, ensure the realization of the final strategic goals through relevant safeguards. The first step of enterprise strategic management is to analyze the strategic goals, make relevant strategic choices according to the internal and external environment of the enterprise, formulate detailed strategic plans, and turn strategic plans into enterprise management. The relevant contents include enterprise-related resource allocation, enterprise organizational structure, corporate culture construction, enterprise business management, etc. When implementing relevant strategies, it is necessary to carry out a series of enterprise management actions in an orderly manner based on corresponding safeguards. Therefore, enterprise strategic management has important guiding value for the future development of an enterprise. It is necessary not only to analyze the relevant situation of the enterprise, but also to formulate appropriate company management methods. Enterprise strategic management is not only a simple enterprise management method, but also aims to point out the direction for enterprise development and determine the action program.

2 The connotation of enterprise strategic management Strategic management is an important part of enterprise management.

It is closely related to the long-term goals, resource allocation and future development direction of the enterprise. The connotation of strategic management mainly includes the formulation, implementation and adjustment of strategies. On the one hand, strategy formulation is the core link of strategic management. Strategy formulation requires a comprehensive analysis and evaluation of the internal and external environment of the enterprise to determine the enterprise's goals and clarify the direction of strategic selection. In the process of planning strategy, the company needs to set clear strategic goals and action plans based on its own resources and capabilities as well as market demand and competition. On the other hand, strategy implementation is a key link in strategic management. Implementation of strategy requires collaboration between various levels and departments, and detailed implementation plans and programs need to be formulated to clarify the respective responsibilities and time points. In the process of implementing strategy, enterprises need to continuously monitor and evaluate, and timely adjust the ways and methods of strategic implementation to ensure the smooth implementation of the strategy and achieve the expected results. Strategic adjustment is an important part of strategic management. Due to the uncertainty of environmental changes in enterprises, strategic adjustment is essential. Enterprises need to constantly pay attention to and study market dynamics and strategic changes of competitors, and make corresponding adjustments in a timely manner. Strategic adjustment includes not only adjustments to specific strategic goals and action plans, but also adjustments to organizational structures and management systems to adapt to new market demands and competitive environments. A good start is half the battle. In the early stage, ZY Company should attach importance to the role of strategic management, formulate clear strategic goals and action plans, and ensure their smooth implementation and timely adjustment to improve the competitiveness of the enterprise and achieve sustainable development.

- Basic theoretical paradigm of strategic management

The basic theoretical paradigm of strategic management refers to some basic theoretical viewpoints and frameworks in the field of strategic management, which are used to guide the decision-making and actions of enterprises in formulating and implementing strategies. These basic theoretical paradigms have certain differences in different strategic management theories, but in general, they all emphasize the interaction between strategy and environment, the integration of internal and external resources of the organization, and the pursuit of long-term performance.

The basic theoretical paradigm of strategic management emphasizes the interaction between strategy and environment. In this paradigm, strategy is regarded as a match between the enterprise and the environment, and the enterprise adjusts its strategy according to changes in the environment. Strategic managers need to actively study and analyze the industry environment, macro environment and competitor behavior of the enterprise in order to formulate and implement adaptive strategies in a changing environment.

The basic theoretical paradigm of strategic management emphasizes the integration of internal and external resources of the organization. Strategic managers need to integrate and optimize the human, material, financial and technological resources within the enterprise with external resources such as the market, suppliers and partners. This paradigm believes that only by integrating and coordinating various resources can enterprises better implement strategies and enhance their competitiveness in market competition. The basic theoretical paradigm of strategic management emphasizes the pursuit of long-term performance. This paradigm believes that the strategic decisions and actions of enterprises should be guided by long-term performance rather than the pursuit of short-term interests. Strategic managers need to continuously innovate and optimize the internal human, material, financial and technological resources of the enterprise with the external ... the strategic decisions and actions of enterprises

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competitiveness, adaptability and survival ability in the fierce competitive environment. In addition, companies also need to properly evaluate the current strategy, make timely adjustments, avoid potential risks, and improve their adaptability. Whether the process of strategic transformation is correct determines whether the company can successfully achieve transformation, which requires the joint efforts of all parties. The main process is: analysis, selection, and implementation. This article is also explained in this process. (1) Strategic analysis

Strategic analysis is the foundation of corporate strategic transformation. Through comprehensive analysis of external environments such as policies and regulations and internal environments such as corporate characteristics, advantages and disadvantages can be obtained, so as to further make clear and accurate predictions about the current situation of the company and the trajectory of future development, and formulate operational and targeted strategic plans.

- Strategic selection

Strategic selection mainly includes the following three steps:

First, determine the alternative plan. According to the actual situation of the company, formulate multiple plans for different development directions and different problems, and make choices based on the current situation.

Second, evaluate the alternative plans. First, evaluate the feasibility of the plan. The feasibility of the plan is the first and most important evaluation criterion. Any plan must be feasible and implementable. Secondly, the formulation of the strategy is based on the principle of keeping consistent with the goals of corporate development to prevent deviation. Thirdly, the formulation of the strategy must improve the position, analyze problems and grasp the situation at the level of the entire industry, and conduct a comprehensive analysis of the company in the macro environment.

Finally, the formulation of strategy needs to maintain the current advantages, further enhance strengths and avoid weaknesses, make up for weaknesses, and

enhance the comprehensive capabilities and core competitiveness of the enterprise. The third is the selection of solutions. The selection of strategic solutions requires an in-depth analysis of the internal and external environments, and the selection of alternative solutions in a targeted manner in combination with the current development difficulties and problems faced by the enterprise. Moreover, the solution must be feasible and can be implemented by the current funds, manpower, and resources of the enterprise.

Strategic implementation The implementation of the strategy is guaranteed by specific measures, and specific steps are required to implement the transformation plan. The main guarantees are: building an excellent corporate culture, improving the operation management system, creating a distinctive brand, optimizing the human resources system, and improving the competition and incentive mechanism. Based on the above content, it can be concluded that strategic transformation belongs to corporate strategic management and is a major strategic change of the enterprise. When a series of changes occur in the internal and external environment of the enterprise, the enterprise must also undergo major changes in order to adapt to the changes in the environment, thus resulting in strategic transformation. The essence of strategic transformation is the re-planning of the content and structure of the enterprise's strategic elements. The ultimate goal of enterprise strategic transformation is to promote the sustainable development of the enterprise [25]. The strategic transformation of real estate enterprises refers to a major adjustment in which real estate enterprises make strategic adjustments and strategic innovations according to the corresponding changes to adapt to market needs and improve their competitiveness when the overall market environment and the internal state of the enterprise change. This strategic transformation aims to achieve the upgrading of business methods by changing the company's strategy, product portfolio, sales model and other methods, so as to achieve sustained growth and profitability. The strategic transformation of real estate enterprises is to

give development strategies based on strategic goals on the basis of corporate strategic transformation, and at the same time, combine the macro-environment of the real estate industry and the internal factors of real estate enterprises to continuously correct and optimize the existing strategies in light of the situation and achieve sustainable development of real estate enterprises.

Analysis tools

Since the emergence of corporate strategic management theory, in order to improve the effectiveness of corporate strategic plans, researchers have proposed a series of strategic analysis tools and methods. According to the research purpose and research object of this article, this article selects three strategic management research methods: Porter's Five Forces Model, PEST analysis method, and SWOT analysis method. The following introduces these three methods to lay a theoretical foundation for the subsequent strategic transformation of YD Real Estate Company.

● SWOT Analysis

The SWOT analysis theory was first proposed by Andrews in 1956, and later evolved into a classic and practical strategic analysis method. The SWOT analysis method includes: Strength, Weakness, Opportunity, and Threats. Strengths and weaknesses are internal factors, while opportunities and threats are external factors.

SWOT analysis is a structured strategic planning tool that first systematically identifies and lists the core strengths and weaknesses of the research object, as well as the opportunities and potential threats in the external environment. These elements are then organized into an intuitive matrix framework for comprehensive analysis. By using the method of system thinking, SWOT analysis cross-matches internal and external factors and deeply explores the interactions and influences between them.

SO: Strengths-Opportunities, use them; WO: Weaknesses-Opportunities, need to be improved; ST: Strengths-Threats, monitor them; WT: Weaknesses-Threats, need to be eliminated.

The SWOT analysis method is a widely used means of strategic decision-making. It can comprehensively evaluate the internal strengths (Strengths), weaknesses (Weaknesses), external opportunities (Opportunities) and challenges (Threats) of an organization. This method helps to deeply understand the position of a company or organization in market competition, so as to formulate appropriate strategic plans.

Specifically, the definition of SWOT analysis is as follows:

Strengths: refers to the positive factors and resources within an enterprise or organization, such as unique technical capabilities, good brand reputation, high-quality products or services, etc., which can help the enterprise gain competitive advantages.

Weaknesses: refers to the negative factors and limitations within an enterprise or organization, such as inefficient production processes, insufficient funds, lack of core competitiveness, etc., which may have an adverse impact on the enterprise.

Opportunities: refers to the favorable conditions and potential opportunities that an enterprise or organization can take advantage of in the current external environment, such as the emergence of new markets, policy adjustments or industry changes, which may create opportunities for growth and development for the enterprise.

Threats: refers to potential problems and threats that an enterprise or organization may face in the current external environment, such as fierce competition, regulatory changes, and declining market demand, which may bring risks and challenges to the enterprise. Through SWOT analysis, an enterprise or organization can systematically evaluate its strengths, weaknesses, opportunities,

and threats, and make decisions and formulate corresponding strategies based on these analysis results to enhance competitiveness and achieve expected goals.

- QSPM Matrix

The QSPM Matrix, or Quantitative Strategic Planning Matrix, is a quantitative analysis tool used in strategic decision-making and plays an important role in the field of strategic management. Its main function is to help decision makers evaluate and choose from multiple alternative strategies to determine the most suitable strategy for implementation. This matrix combines internal and external environmental factors to evaluate and rank strategic options in a quantitative manner.

The use of the QSPM matrix usually includes the following steps:

When making a list, record the key external opportunities and threats from the EFE matrix (external factor evaluation matrix) and the IFE matrix (internal factor evaluation matrix), as well as internal strengths and weaknesses on the left side of the matrix.

Determine importance: Assign weights to these factors to reflect their relative influence on the success of the enterprise.

Prepare alternative strategies: List the alternative strategies obtained through tools such as SWOT and SPACE at the top of the matrix.

Alternative scoring strategies: Score each strategy based on its utilization of external opportunities, internal strengths, and its ability to respond to external threats and internal weaknesses.

Calculate the attractiveness score: By adding the weight of each factor to the corresponding evaluation, we can obtain the weighted attractiveness score of each factor.

Compare and select: The attractiveness scores of all alternative strategies are added together, and the total score reflects the relative attractiveness of each strategy. The strategy with the highest score is considered the best choice.

The advantage of the QSPM matrix lies in its structured and quantitative evaluation process, which helps to improve the objectivity and reliability of decision-making. In this way, decision makers can see the pros and cons of different strategies more clearly and make more informed choices based on them. However, this process also requires decision makers to have good intuitive judgment, because the allocation of scores and weights often involves subjective judgment. In addition, only alternative strategies in the same group can be compared with each other, while different types of strategies cannot be directly compared in the QSPM matrix.

In general, the QSPM matrix is a powerful strategic planning tool that can help companies make more scientific and reasonable choices among many strategic options. In practical applications, companies should carefully allocate weights and score according to their own situation and market environment to ensure that the final strategy can effectively promote the realization of corporate goals.

CHAPTER 2

ANALYSIS OF THE CURRENT OPERATIONAL STRATEGY AND EXISTING PROBLEMS OF GOLDWIND

2.1 Overview of Goldwind

Founded in 2002, Goldwind is headquartered in the provincial high-tech industrial development zone of Dongying, Shandong Province. It is a national high-tech enterprise focusing on the research, development, production and sales of carbonate series lithium-ion battery electrolyte solvents and fine chemicals. It currently has 8 wholly-owned/holding subsidiaries, 2 major technology innovation centers, and 3 major production bases. Its products are widely used in new energy vehicles, medicine, daily chemicals, food, unsaturated resins and other fields, and its products are exported to more than 100 countries and regions around the world.

In 2022, the annual sales volume of carbonate solvents reached 220,000 tons, with a domestic market share of 31%; the overseas market was 23%;

The global carbonate solvent market share is about 30%, ranking first, and it is the world's leading electrolyte solvent manufacturer. In China, Goldwind is the core supplier of leading electrolyte manufacturers such as BYD and Tianci Materials. Overseas, Goldwind's customers include Mitsubishi Chemical, Central Glass, ENCHEM, and SOULBRAIN. Goldwind's products eventually enter the supply chain system of Tesla, CATL, LG, and Samsung SDI through these leading companies. In 2023, Goldwind's share of core customers will remain high, accounting for 70% of BYD, 43% of Tianci, 35% of Cathay Pacific, 70% of Central Glass, and 45% of Enke. At the same time, Goldwind is also one of the main domestic manufacturers of high-end propylene glycol, dipropylene glycol and other products. Its products have strong competitiveness in the market, which

has effectively promoted the import substitution of pharmaceutical-grade propylene glycol, dipropylene glycol and other products in my country. It is one of the only two manufacturers in China that can provide pharmaceutical-grade propylene glycol. Goldwind has been deeply involved in the fine chemicals industry for 20 years. It has more than 1,000 terminal customers at home and abroad, ranking first in the world. It is the only Chinese company that has entered the supplier system of foreign daily chemicals and flavors and fragrances industries. It is also the only company in the world that uses plant organic raw materials to prepare butanediol. The rapid development of Goldwind has promoted the continuous rise of its industry status. The company has successively won the national manufacturing single champion demonstration enterprise, the national specialization and innovation small giant enterprise, the national science and technology innovation invention excellent patent award, the provincial engineering laboratory, the provincial enterprise technology center, the provincial technology innovation demonstration enterprise, the provincial industrial enterprise quality benchmark, the provincial gazelle enterprise, the provincial famous trademark, the provincial high-quality brand...

- The position of Goldwind's industry in the industrial chain

At present, the main products of Goldwind are fine chemicals such as lithium-ion battery electrolyte solvents and high-end propylene glycol. The upstream industry of Goldwind is the basic chemical industry, and the raw materials required for production are sufficient and the price is transparent. The downstream of Goldwind's core product electrolyte solvent is lithium-ion battery electrolyte, which is mainly used in the field of new energy vehicle power lithium battery. Therefore, the development prospects of Goldwind's industry are closely related to the development of the lithium battery market and the new energy vehicle industry. Fine chemicals such as high-end propylene glycol are widely used in daily chemical, pharmaceutical and other industries, and are in wide

demand. Goldwind has established long-term and close cooperative relations with well-known upstream and downstream companies, thereby effectively ensuring the supply of raw materials for Goldwind's main products and the continued stable growth of sales scale. The relationship between Goldwind's industry and upstream and downstream industries is shown in the figure below: Goldwind has always maintained a good cooperative relationship with its customers by virtue of stable product quality, excellent product performance, outstanding service capabilities and efficient customer response speed. At the same time, in order to ensure the timely, quality and quantity supply of raw materials, Goldwind also maintains a good cooperative relationship with major suppliers. The customers cooperating with Goldwind are mainly leading enterprises in the new energy industry, which have provided large orders steadily, which will have a positive impact on the subsequent expansion of Goldwind's production capacity and business scale.

Table 2.1 - The relationship between the industry in which Goldwind operates and its upstream and downstream industries

Upstream - Raw materials	Midstream-Company products	Downstream-application areas
Propylene oxide	Lithium-ion battery materials	Power battery electrolyte
Ethylene oxide	Electrolyte solvents	Digital battery electrolyte
Anhydrous ethanol		Energy storage battery electrolyte
Propylene	Fine chemicals	Pharmaceutical industry
Carbon dioxide	Propylene glycol	Daily chemical industry
	Isopropyl alcohol	Food industry, etc.

Data source: Goldwind annual report

- Current status of Goldwind's operational strategy

-Goldwind has always been a dual-wheel-driven development model. After more than 20 years of development, Goldwind's development strategy has gradually become clear. At the same time, due to the different characteristics of

Goldwind's two major businesses, the company has always adopted different operational strategies.

-Goldwind's vision: to become a benchmark enterprise of new energy materials with leading technology and market.

-Goldwind's mission: to contribute to global green life.

-Goldwind's strategic goals: to build open and innovative core competitiveness, to build a matrix-style agile operational organization guided by market and customer needs, to focus on new energy materials, to create a global leader in new energy materials with leading technology and market, and to provide customers with the most competitive and sustainable green and low-carbon solutions.

- Current operational strategy of carbonate series lithium-ion battery electrolyte solvents

In recent years, with the continuous development of the downstream new energy vehicle industry, the application scenarios of digital batteries have been continuously enriched, and the energy storage battery market has gradually opened up. Major lithium-ion battery electrolyte manufacturers in the industry have continuously built new production capacity, driving the rapid growth of downstream solvent market shipments. In this context, Goldwind only focuses on the "electrolyte solvent" product to implement a centralized operational strategy.

In early 2019, Goldwind invested in the construction of a wholly-owned subsidiary in Lianyungang, Jiangsu, to expand the production capacity of electrolyte solvents; starting from 2021, in order to focus on advantageous products and consolidate and continuously improve the market share in the field of electrolyte solvents, the company began to dismantle the isopropanol production unit at the end of September 2021 and converted the isopropanol production unit into a carbonate production unit; in early 2022, a holding subsidiary was established in Yichang, Hubei with a company that owns raw materials, which is

also used to expand the production capacity of electrolyte solvents; with a cumulative investment of more than 2 billion yuan, the production capacity of carbonate solvents from 2019 to 2023 is 80,000 tons, 130,000 tons, 150,000 tons, 310,000 tons, and 520,000 tons respectively. It is expected that the production capacity will reach nearly 800,000 tons in 2024, with an average annual growth rate of about 60%, achieving rapid expansion of production capacity. Goldwind Company focuses on electrolyte solvents through a centralized strategy, fully expands production capacity, deeply binds downstream electrolyte manufacturers, consolidates and increases its market share among downstream electrolyte manufacturers, and makes the company a global electrolyte solvent leader.

- Current status of operational strategies for fine chemicals such as propylene glycol

At present, in the Chinese market, there is a large gap in high-end propylene glycol products for medicine and flavors, which rely on large-scale imports. Low-end industrial-grade products are in excess, and competition between sources in the market is relatively fierce, and they are in a state of large-scale exports. At present, the technical barriers for high-end propylene glycol still exist, and the situation of large-scale imports and exports in the domestic market may continue. High-end propylene glycol is the first product in the industry in terms of quality and scale. The price per ton of the product is more than 1,000 yuan higher than that of the same industry. Against this background, Goldwind implemented a differentiated strategic operation strategy. By taking the lead in market insight, studying national industrial policies, and promoting advanced management technologies, it was ahead of all companies in the industry in advance and obtained a pharmaceutical production license. Through 5 years of research and development, first theoretical breakthroughs, then small tests, pilot tests, scale-up experiments, customer verification, and free customer experience, and 5 years of customer order-tracking services, it finally succeeded and gained customer

recognition. At the same time, Goldwind continued to invest in research and development to continuously meet customers' requirements for color and impurities. Starting from customer and market needs, it persisted in overcoming industry problems. This technology was continuously developed and applied to the production of products such as dipropylene glycol and butanediol, forming Goldwind's most competitive core technology - high purification technology for liquid organic alcohol chemicals. The downstream field of propylene glycol is broad, and its main application areas are the manufacture of unsaturated resins (coatings and glass-reinforced resins), polyether polyol initiators, functional liquids (antifreeze, deicing agents, heat transfer fluids), food, medicine, cosmetics, tobacco moisturizing, liquid detergents, paints and coating solvents, etc. Through differentiated marketing, Goldwind Company continues to expand its customer base and broaden its business network. Through a differentiated operation strategy, Goldwind Company continuously purifies and obtains a pharmaceutical production license based on traditional industrial-grade propylene glycol through technological research and development, which differentiates the company from its competitors and has contributed more than 500 million yuan in profits since 2020.

2.2 Analysis of financial performance under the current operating strategy of Goldwind

This section collects the main business income data of Goldwind and lists them by product category. It can be seen that the income changes of different product categories of Goldwind in recent years, which is also a reflection of the different operating strategies of different product lines of Goldwind; collects the main business cost and period expense data of Goldwind, and lists the cost and expense data of direct materials, direct labor and manufacturing expenses and sales

expenses, management expenses and R&D expenses separately, which can show the changes of different costs and expenses of Goldwind, which is a reflection of the cost control ability of Goldwind; collects the gross profit margin data of Goldwind, which can show the changes of profitability of different products of Goldwind, which is also a reflection of the results of Goldwind's operating strategy; finally, the comprehensive financial indicators of Goldwind are collected and analyzed, and the problems existing in the implementation of Goldwind's previous centralized operating strategy of lithium-ion battery electrolyte solvents and differentiated operating strategies of fine chemicals such as propylene glycol are identified, which provides a strong basis for the targeted proposal of subsequent operational strategy improvement countermeasures and safeguard measures.

Table 2.2 - Main business income

	2022		2023		2024	
Product name	Amount	Ratio	Amount	Ratio	Amount	Ratio
Carbonate series	97,651.17	58.82%	216,556.70	70.51%	224,507.82	74.15%
Propylene glycol	30,897.49	18.61%	67,148.86	21.86%	57,212.39	18.90%
Isopropyl alcohol	30,860.66	18.59%	11,324.24	3.69%	-	-
Others	6,613.68	3.98%	12,111.11	3.94%	21,038.57	6.95%
Total	166,023.01	100.00%	307,140.91	100.00%	302,758.78	100.00%

Data source: Goldwind annual report

As Goldwind continues to deepen its centralization strategy, focusing on electrolyte solvents, abandoning the isopropyl alcohol product line, and fully expanding the production capacity of carbonate solvents, the company's carbonate series revenue share continues to increase. From 58.82% in 2020 to 74.15% in 2022. In 2021, the company's sales revenue of propylene glycol products was 671.4886 million yuan, an increase. The main reason is that due to the repeated outbreaks of the epidemic abroad, foreign propylene glycol suppliers such as Dow,

Lyondell, and SK have been constrained by their own production and international logistics and transportation. The supply to the domestic market has been interrupted, resulting in the inability to meet the demand in the domestic market, and the market price of propylene glycol has increased significantly. The company's propylene glycol products are sold both at home and abroad, which has led to an increase in the company's domestic and export revenue in the current period. In 2022, with the decline in the market price of propylene glycol, the company's sales revenue of propylene glycol products in the current period has slightly decreased compared with the same period last year.

- Analysis of main business costs

Table 2.3 - Main business costs

Product Name	2022		2023		2024	
	Amount	Ratio	Amount	Ratio	Amount	Ratio
Direct materials	100,633.78	77.24	156,140.36	74.02	167,645.95	69.19
direct labor	3,517.75	2.70	6,520.00	3.09	9,422.15	3.89
manufacturing overhead	17,813.09	13.67	31,516.78	14.94	43,353.46	17.89
freight and sales commissions	8,328.63	6.39	16,779.11	7.95	21,887.52	9.03
Total	130,293.24	100.00	210,956.25	100.00	242,309.08	100.00

Data source: Goldwind annual report

The company's operating costs include direct materials, direct labor and manufacturing expenses: direct materials mainly include raw materials and auxiliary materials directly used in production; direct labor mainly includes wages and employee benefits of relevant personnel in the production department; manufacturing expenses mainly include energy costs such as water, electricity, coal powder, steam and other indirect expenses.

In 2022, the proportion of direct materials in the cost of main business was 69.19%, a slight decrease from the previous year, mainly because the purchase

prices of the company's main raw materials propylene oxide and industrial-grade dimethyl carbonate decreased by 39.85% and 20.96% respectively from the previous year. In 2021 and 2022, the proportion of direct labor costs in the cost of main business was 3.09% and 3.89% respectively, which increased slightly. The main reason is that with the increase in production, the wages of production personnel have also increased, which has increased the proportion of direct labor costs.

● Period cost analysis

Table 2.4 - Period Expenses

	Item	Sales expenses	Administrative expenses	R&D expenses	Financial expenses	Total
2022	Amount (10,000 yuan)	2,800.92	11,477.10	12,645.41	888.76	27,812.19
	Proportion of operating income	0.92	3.79	4.17	0.29	9.18
2023	Amount (10,000 yuan)	2,439.77	6,899.95	11,358.00	1,676.51	22,374.23
	Proportion of operating income	0.79	2.25	3.70	0.55	7.28
2024	Amount (10,000 yuan)	1,675.81	7,936.68	6,128.72	1,882.50	17,623.71
	Proportion of operating income	1.01	4.78	3.69	1.13	10.61

Data source: Goldwind annual report

The company's period expense structure is basically stable, with sales expenses, administrative expenses and R&D expenses accounting for a relatively high proportion of period expenses. The main sales expenses are freight and employee salaries for domestic and overseas sales. As the company's sales scale expands, the wages and salaries of sales personnel have increased. The company's administrative expenses have generally increased with the expansion of the

company's business scale. The company's administrative expenses mainly include employee salaries, shutdown losses of isopropyl alcohol units and start-up costs of subsidiaries. The company's R&D expenses mainly consist of R&D materials and salaries of R&D personnel. The company attaches importance to product upgrades and new product development, and improves the production process level through continuous R&D investment to meet challenges such as technological innovation and continuously meet market demand.

- Gross profit margin analysis

Table 2.5 - Gross profit margin of main products

Product Name	2022	2023		2024	
	Gross profit margin	Gross profit margin	Increase	Gross profit margin	Increase
Carbonate series	20.38	33.95	66.58	19.48	-42.63
Propylene glycol	19.12	29.99	56.86	29.11	-2.94
Isopropyl alcohol	28.04	16.15	-42.42	-	-
Others	19.10	5.76	-69.86	0.34	-94.13
Total	21.52	31.32	45.52	19.97	-36.24

Data source: Goldwind annual report

The gross profit margin of Goldwind's carbonate series products increased by 66.58% in 2021 compared with 2020, and then fell by 36.24% in 2022. This is mainly because in recent years, with the implementation of the new energy vehicle points system, the continuation of the subsidy policy, the accelerated investment layout of traditional car companies in the field of new energy vehicles, and the continuous outbreak of new car-making forces, the global new energy vehicle market has maintained a high-speed growth trend, and the shipment volume of lithium batteries supporting it has also continued to grow. As an important component material of new energy power batteries, electrolyte solvents have also maintained continuous growth and are in short supply, which has led to a significant increase in the average unit price of the company's carbonate series

products in 2021; however, the overcapacity caused by the rapid expansion of production capacity has led to a significant decline in the average unit price of the company's carbonate series products in 2022 compared with 2021, resulting in a decrease in the gross profit margin of the company's carbonate series products compared with the previous year. The gross profit margin of propylene glycol products has maintained an upward trend. The main reason is that due to the repeated outbreaks of the epidemic abroad, foreign propylene glycol suppliers such as Dow, Lyondell, and SK have been constrained by their own production and international logistics and transportation factors, which have interrupted the supply to the domestic market. As a result, the demand in the domestic market cannot be met, and the market price of propylene glycol has increased significantly, which has led to an increase in the gross profit margin of the company's propylene glycol products in the current period.

Isopropyl alcohol products The company's isopropyl alcohol products can replace alcohol as disinfectants. The new crown epidemic that began in early 2020 has increased the market demand and market price of isopropyl alcohol products. In 2021, with the recovery of global isopropyl alcohol production capacity, the entire isopropyl alcohol market has returned to a state of oversupply, and the market price of isopropyl alcohol products has fallen. With the company's centralized strategy for carbonate series products, Goldwind decided to transform the isopropyl alcohol unit in 2021 to produce carbonate series products.

- Comprehensive financial indicators

In 2021, benefiting from the rapid development of the entire downstream new energy vehicle market, electrolyte solvent products are in short supply. The unit price of the company's carbonate series products has increased significantly, which has increased the company's net profit attributable to the parent company after deducting non-recurring items from 203.0023 million yuan in 2020 to 596.2223 million yuan in 2021, an increase of 193.70%. In 2022, with the steady

increase in the supply of electrolyte solvent products, the sales price of electrolyte solvent products has fallen, which has led to a decline in the gross profit margin of carbonate series products, which has led to a decline in the company's net profit attributable to the parent company after deducting non-recurring items in the current period.

Table 2.6 - Financial indicators(2022-2024)

Project	2022	2023	2024
Operating income	1,660,481,942.13	3,072,460,485.06	3,029,202,543.85
Operating cost	1,302,932,432.29	2,109,562,493.98	2,423,090,806.78
Sales expenses	16,758,071.18	24,397,729.21	28,009,155.46
Administrative expenses	79,366,807.90	68,999,460.82	114,770,980.44
R&D expenses	61,287,224.65	113,580,025.99	126,454,140.52
Financial expenses	18,825,017.30	16,765,066.97	8,887,626.37
Net profit	152,844,064.48	607,498,582.75	277,080,417.86
Net profit attributable to parent company after deducting non-recurring items	203,002,300.00	596,222,300.00	274,624,800.00
Comprehensive gross profit margin	21.52%	31.32%	19.97%
Net profit margin	9.20%	19.77%	9.15%

Data source: Goldwind annual report

In order to expand the product line and increase the production capacity of electrolyte solvent products, the company established a new subsidiary in Hubei in 2022. The subsidiary introduced a large number of management personnel during the preparation and subsequent construction of new production facilities, resulting in an increase in the company's current management expenses. The company attaches great importance to product upgrading and new product research and development. In order to cope with challenges such as technological innovation and changes in market demand, the company has improved its production process through continuous R&D investment. In 2022, the company's R&D investment continued to grow compared with the same period last year.

Through the collection and analysis of the main financial data of Goldwind, it can be seen that there are problems in the implementation of Goldwind's carbonate series centralized operation strategy and differentiated operation strategy for fine chemicals such as propylene glycol.

The revenue scale of carbonate series products and the proportion of revenue in the company are constantly increasing, but the unit price and gross profit margin of the products reached a peak in 2021. The rapid development of the new energy vehicle industry has driven the rapid expansion of the scale of the carbonate solvent industry. Goldwind is also a member of the army of capacity expansion and a leading enterprise in the industry. The revenue of carbonate series products of Goldwind has reached about 75%, and with the continuous release of new production capacity of Goldwind, this proportion will continue to grow. However, the overcapacity of the industry has also led to a continuous decline in product prices. The profitability of Goldwind has continued to decline. How to ensure the full release of new production capacity of Goldwind and the improvement of profitability is crucial to the development of Goldwind. Therefore, the adjustment and improvement of the operating strategy of carbonate series products of Goldwind is crucial to the realization of the strategic goals of Goldwind. Due to differentiated marketing, the unit price and gross profit of fine chemicals such as propylene glycol have remained stable, but there has also been a lack of growth in 2022. The operating strategy of propylene glycol also needs to be improved in combination with the analysis in the previous article.

2.3 Analysis of problems in the operating strategy of Goldwind

There are some problems in the operating strategy of Goldwind from the formulation of the strategy to the implementation of the strategy.

- Huge capital investment but no clear capital operation strategy

Goldwind's operation strategy requires a large amount of capital investment, "building open innovation core competitiveness", "technological leadership", "centralized capacity expansion", "differentiated technology research and development and marketing", etc. all require a large amount of capital expenditure, but the company does not have a clear capital operation strategy, and most of the investment funds are self-owned funds or bank loans, resulting in huge cash flow pressure on the company. After that, the group decided to go public for financing, but the group's investment projects have already made a lot of investment. If the listing fails, the group's cash flow will face huge problems.

- The centralized strategy cannot cope with the industry's periodic overcapacity

At present, the lithium battery new energy industry chain has entered a stage of structural overcapacity, and electrolyte solvents have entered a brutal "reshuffle period"; Alcohol consumer chemicals face the challenge of oversupply. However, when formulating its strategy, Goldwind was too optimistic about the market. In just five years, its production capacity expanded 10 times. At the same time, competitors in the same industry were also expanding their production capacity, resulting in the expansion rate of carbonate solvents far exceeding the growth rate of industry demand. Although Goldwind's market share increased to 35%, the imbalance between supply and demand caused by the rapid expansion of production capacity further led to a continuous decline in product prices. The product gross profit margin fell from 30% to around 10%, and Goldwind's profitability dropped significantly. At the same time, the overcapacity led to insufficient company operating rates, and excessive fixed asset investment led to excessive depreciation costs, further weakening the company's profitability. Goldwind's centralized strategy could not cope with the current situation of

periodic overcapacity in the industry, and it was in urgent need of strategic transformation.

- Organizational management chaos caused by rapid growth in scale

Since the rapid expansion of Goldwind since 2019, the number of employees of Goldwind has increased from more than 300 in 2019 to more than 1,000 in 2023, with 8 wholly-owned/holding subsidiaries, 2 major technology innovation centers, and 3 major production bases. The scale of organization, personnel, and business has all grown rapidly. The resulting problem is the disorderly expansion of the organization. Goldwind has more than 20 functional departments alone, with overlapping functions and vacancies, resulting in inefficient management, unable to adapt to the needs of the group's rapid growth, and rising operating costs.

- Inadequate guarantee and execution of operation strategy

Goldwind Company adopts a centralized operation strategy for carbonate series lithium-ion battery electrolyte solvents, which is intended to rapidly expand production capacity to gain market share. However, in the actual implementation process, due to the lack of talent responsible for device construction and inadequate cost control, the actual construction progress of the device construction is far lower than expected. At the same time, the cost of building the device is much higher than the original budget cost. The guarantee required for the implementation of the company's operation strategy is not in place, resulting in the company's operation strategy execution is also inadequate.

Goldwind Company adopts a differentiated operation strategy for fine chemicals such as propylene glycol. It is also due to the lack of talent in R&D personnel and sales personnel that alcohol products have not made major breakthroughs and are limited to enjoying the dividends brought by the original pharmaceutical-grade qualification certificate. No further breakthroughs have been made in recent years.

- Macro-environment analysis based on the PEST model

Political environment analysis

The main businesses of Group B are in the fields of "lithium-ion battery materials" and "fine chemicals". In the past decade, the state has provided strong policy support for the above two major fields.

(1) Policy in the field of lithium-ion battery materials

In April 2020, the Ministry of Finance, the Ministry of Industry and Information Technology, the Ministry of Science and Technology, and the National Development and Reform Commission proposed in the "Notice on Improving the Fiscal Subsidy Policy for the Promotion and Application of New Energy Vehicles" that the implementation period of the fiscal subsidy policy should be extended and the subsidy reduction rate should be slowed down; technical indicators should be adjusted appropriately to promote industrial optimization and upgrading; relevant policies and measures should be improved to create a good development environment.

In November 2020, the State Council pointed out the importance of developing new energy vehicles in the "New Energy Vehicle Industry Development Plan (2021-2035)" and put forward development goals.

In March 2021, the State Council pointed out in the Outline of the 14th Five-Year Plan for National Economic and Social Development of the People's Republic of China and the Long-Term Goals for 2035 that it would focus on strategic emerging industries, accelerate the innovation and application of key core technologies, enhance the ability to ensure the production of key elements, and cultivate and expand new momentum for industrial development. Among them, new energy vehicles are an important part of strategic emerging industries. In October 2021, the State Council issued the Action Plan for Carbon Peaking Before 2030, which proposed the adjustment plan and development goals of the industrial structure and energy structure, and aimed at achieving green, low-carbon and high-quality development of the economy and society. In June 2022, the Ministry

of Transport proposed to optimize the transportation structure, gradually increase the proportion of "electrification" of public transportation and commercial vehicles in the market, and increase the market share of new energy passenger vehicles; promote the innovation and development of battery technology, and improve the endurance of new energy passenger vehicles. These are the main ways to achieve carbon neutrality in the transportation field. In August 2023, the Ministry of Industry and Information Technology, the Ministry of Finance and other seven departments proposed in the "Automotive Industry Stable Growth Work Plan (2023-2024)" that it is necessary to further expand the consumption of new energy vehicles, continue to apply the existing tax incentives, review and issue subsidies, and increase the proportion of social population consumption on new energy vehicles. By reviewing the series of policies issued by my country in the field of lithium-ion battery materials in the past decade, it can be seen that the lithium-ion battery materials industry has ushered in unprecedented development opportunities. Policies in the field of fine chemicals

In April 2016, the China Petroleum and Chemical Industry Federation pointed out in the "13th Five-Year Development Guidelines for Petroleum and Chemical Industry" that it is necessary to implement technological transformation in the fields of raw material optimization, energy conservation and consumption reduction, improve product quality and technology upgrades, and take the path of diversified comprehensive utilization. In September 2016, the Ministry of Industry and Information Technology pointed out in the "Petrochemical and Chemical Industry Development Plan (2016-2020)" that national and industry innovation platforms should be built in key areas such as new chemical materials, fine chemicals, and modern coal chemical industry. In December 2017, the National Development and Reform Commission and the Ministry of Industry and Information Technology pointed out in the "Guiding Opinions on Promoting the Green Development of the Petrochemical Industry" that the level of green

development of the petrochemical industry should be improved, industrial development and ecological environmental protection should be promoted in a coordinated manner, and scientific planning and policy guidance should be strengthened. In July 2020, the Petroleum and Chemical Industry Planning Institute pointed out in the "Guidelines for the 14th Five-Year Plan for the Petrochemical and Chemical Industry" that it is necessary to promote high-quality development of petrochemicals, actively promote innovation-driven and green sustainable development strategies, cultivate strategic emerging industries, continuously optimize industrial structure, product structure, organizational structure and layout structure, and enhance the international competitiveness and sustainable development capabilities of the industry. By reviewing the series of policies issued by my country in the field of fine chemicals in the past decade, it can be seen that my country mainly formulates relevant policies for industrial upgrading and structural adjustment. Against this background, the development of fine chemicals

- Economic environment analysis

my country's economy has always maintained a trend of high-quality development Since the reform and opening up, my country's gross domestic product (GDP) has always maintained rapid development and has achieved remarkable achievements. Since 2010, my country has surpassed Japan to become the world's second largest economy, and its GDP exceeded 100 trillion yuan in 2021.

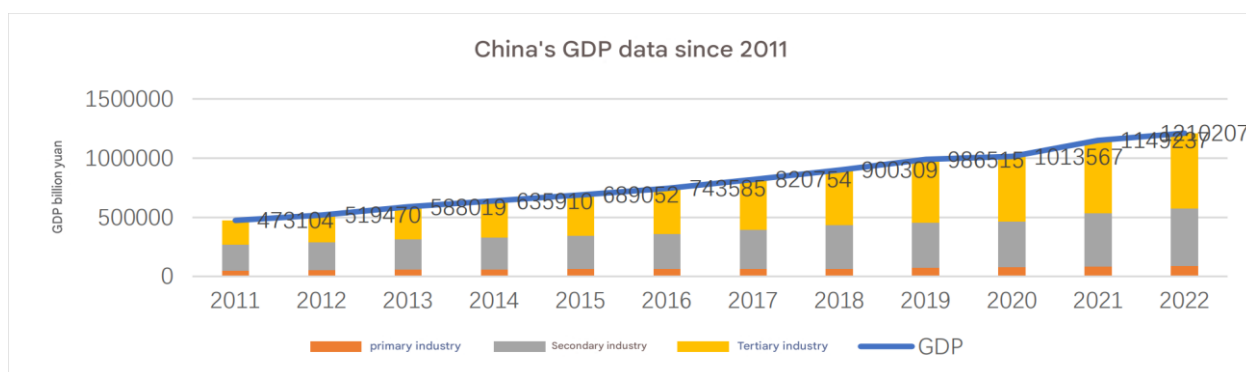


Figure 2.1 - China's GDP data since 2011

Data source: National Bureau of Statistics of China

Since 2020, although the world economy has been sluggish in recovery and unstable factors have increased, my country's GDP growth has slowed down since 2020. From 2020 to 2022, China's economy grew by an average of 4.5% per year. The growth rate of major economic indicators also fluctuated to a certain extent. However, my country's economy as a whole still maintained a trend of high-quality development. In the first three quarters of 2023, GDP reached 91,302.7 billion yuan, a year-on-year increase of 5.2%. At present, my country's economy is still in the initial expansion stage of development. Industrialization and urbanization have not yet been completed. Scientific and technological innovation and industrial upgrading are progressing steadily. This determines that China's economy will still maintain a relatively high growth level in the future.

My country's per capita disposable income and consumption expenditure continue to increase, and residents' consumption capacity and consumption willingness are enhanced. With the rapid development of my country's economy, my country's per capita disposable income and consumption expenditure are also increasing. In 2019, my country's per capita disposable income and consumption expenditure exceeded 30,000 yuan and 20,000 yuan respectively, and residents' consumption capacity is constantly increasing.

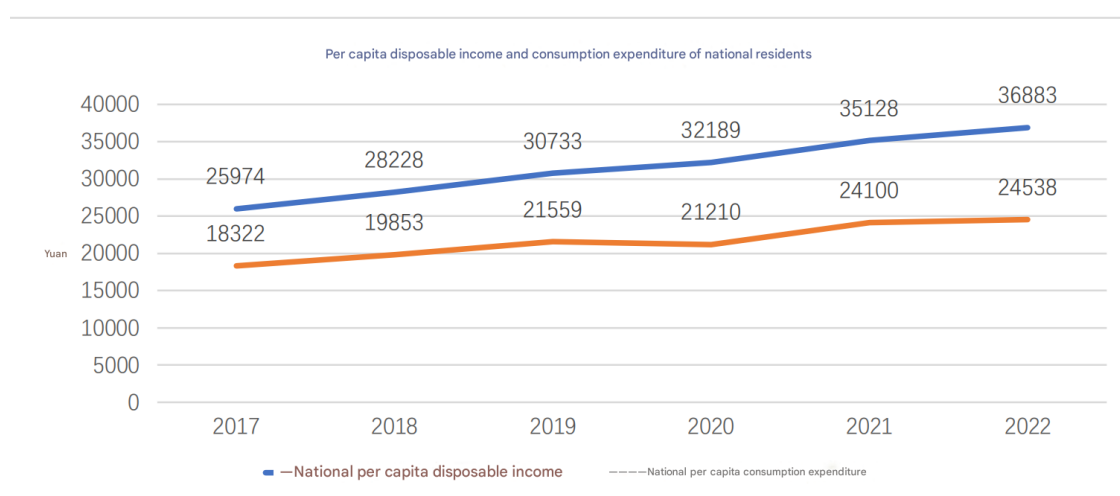


Figure 2.2 - Per capita disposable income and consumption expenditure of all residents

Data source: National Bureau of Statistics of China

In the per capita consumption structure of the national residents in 2022, food, tobacco and alcohol accounted for 30.5%, housing accounted for 24%, and transportation and communication accounted for 13.0%. The transportation and communication field to which automobiles belong ranked third, which shows that automobile consumption is an important area of consumption for Chinese residents. Generally speaking, automobile consumption accounts for a large proportion of household consumption expenditures, and families with a higher standard of living generally choose to buy cars. With the continuous increase in the per capita disposable income of Chinese residents, the ability of residents to buy cars is also constantly improving; at the same time, the quality requirements for daily necessities such as cosmetics and personal care products are also constantly improving.

The new energy vehicle industry is an important part of my country's green transformation and is developing rapidly with the support of the government. Consumption is a key factor in my country's economic growth. my country's economy is gradually building a new development pattern dominated by domestic circulation and mutually reinforcing domestic and foreign circulations. The role of consumption in driving economic growth has been significantly enhanced. The government has also taken a series of measures to stimulate consumption. In particular, since the outbreak of the epidemic, many local governments have issued "consumption coupons" to promote residents' consumption. Since most consumption coupons are issued in the form of full-reduction coupons, consumption coupons have a 1:N leverage effect and can leverage a large amount of consumption. Automobile consumption coupons are the top priority of the consumption coupons issued by the government. In the context of my country's green industry transformation to promote scientific and technological innovation and industrial upgrading, coupled with the government's stimulus policies for new energy vehicle consumption, my country's green transformation has been rapidly

advancing in recent years. As a representative of green industries, the new energy vehicle industry has demonstrated strong vitality and has become a new driving force for my country's economic growth. From 2020 to 2022, the average annual growth rate of new energy vehicles reached 78.0%. In 2022, the output value of the new energy automobile industry and the new energy industry in the strategic emerging industries increased by 57.5% and 24.0% respectively over the previous year, effectively promoting industrial growth. High-quality green supply has effectively stimulated new demand, and the domestic sales and export growth of green products have a good momentum, providing new support for the transformation of new and old kinetic energy. The production and sales of new energy vehicles in my country continue to be strong, continuing the trend of rapid growth, and the market penetration rate has steadily increased. According to data from the China Association of Automobile Manufacturers, from January to June 2023, my country's production and sales of new energy vehicles reached 3.788 million and 3.747 million respectively, up 42.4% and 44.1% year-on-year, and the penetration rate of new energy vehicles reached 28.3%. According to data released by the China Automotive Power Battery Industry Innovation Alliance, from January to June 2023, my country's cumulative power battery production and sales were 293.6Gwh and 256.5Gwh, respectively, with cumulative year-on-year growth of 36.8% and 17.5%, respectively; according to Gaogong Lithium Battery data, the shipment of energy storage batteries in the first half of 2023 was about 87GWh, a year-on-year increase of 67%. The vigorous development of the new energy vehicle and energy storage markets has further promoted the market share of power batteries and energy storage batteries, and further promoted the rapid growth of electrolyte shipments. According to data released by Gaogong Lithium Battery, my country's electrolyte shipments in the first half of 2023 were 470,000 tons, a year-on-year increase of 44%. The rapid growth of the downstream has also led to a rapid growth in the demand for electrolyte solvents.

Analysis of the social and cultural environment

People's attention to environmental protection and the improvement of environmental awareness In recent years, with the increasing severity of environmental pollution, people's environmental awareness has gradually improved. The government has strengthened the formulation and implementation of environmental laws and regulations, cracked down on environmental violations, and increased the intensity of environmental protection publicity. At the same time, the media has reported more and more on environmental issues, which has attracted public attention and discussion, and further promoted the improvement of people's environmental awareness. In addition, some environmental protection organizations and volunteers are also promoting the dissemination and practice of environmental protection concepts, which has promoted the improvement of people's environmental awareness. Although it will take more time and effort to improve environmental awareness, overall, people's environmental awareness has been significantly improved.

People's acceptance of new energy vehicles continues to increase, and new energy vehicle sales have hit new highs

In recent years, with the increasing severity of the global energy crisis and environmental pollution, the development of energy-saving and environmental protection related industries has received great attention. The development of new energy vehicles has become a global consensus. As a clean and low-carbon means of transportation, new energy vehicles have received widespread attention and promotion. Governments of various countries have announced time plans to ban the sale of fuel vehicles, and major international vehicle manufacturers have also successively released new energy vehicle strategies.

New energy vehicles mainly include electric vehicles (EV) and hybrid electric vehicles (HEV). Electric vehicles store electrical energy through batteries and drive motors to move, completely eliminating exhaust emissions and featuring

zero emissions and low noise. Hybrid vehicles combine the advantages of internal combustion engines and electric motors, and can be driven by fuel or powered by batteries and electric motors to achieve higher fuel economy and reduce exhaust emissions. The development of new energy vehicles is driven by many factors. First, the improvement of environmental protection awareness and the increasing prominence of global climate change issues have prompted the government to introduce a series of environmental protection policies and regulations to encourage and support the development of new energy vehicles. Second, the continuous advancement of battery technology and the reduction of costs have significantly improved the range and performance of new energy vehicles, increasing consumer acceptance. In addition, new energy vehicles can also reduce dependence on oil resources and improve energy security, which has long-term strategic significance. However, the development of new energy vehicles still faces some challenges. First, further breakthroughs in battery technology and further reductions in costs remain a key issue. At present, the range and charging time of batteries still limit the popularity of new energy vehicles. Second, the construction of charging infrastructure and the improvement of supporting policies are also issues that need to be addressed. The number and distribution of charging piles are uneven, and the convenience and cost of charging services also need to be further improved and reduced.

Against the above background, Chinese residents are becoming more and more accepting of new energy vehicles, and new energy vehicles have been developing strongly in recent years. In 2013, China's new energy vehicle sales were only 18,000 units, and by 2020, the sales volume reached 1.367 million units. In 7 years, the sales volume of new energy vehicles has increased more than 70 times. Since 2020, the sales volume of new energy vehicles has shown a strong growth trend, and basically every month's sales volume has hit a record high. As of November 2023, the penetration rate of new energy vehicles has exceeded 40%. In

November 2023, the retail sales volume of new energy vehicles recorded 841,000 units, a year-on-year increase of 39.8% and a month-on-month increase of 8.9%; the penetration rate increased by 2.4 percentage points month-on-month to 40.4%, an increase of 4.1 percentage points year-on-year.

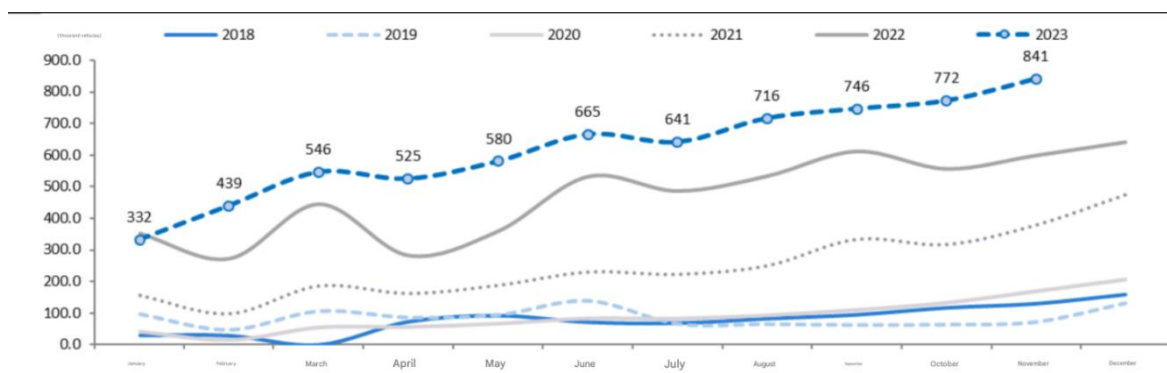


Figure 2.3 - Monthly sales of new energy vehicles since 2018

Data source: China Passenger Car Association, Bocom International

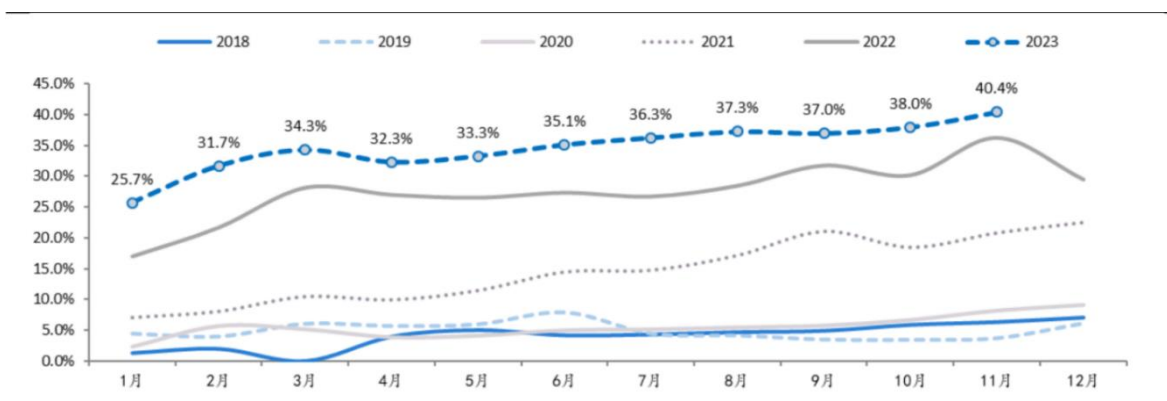


Figure 2.4 China's new energy vehicle retail penetration rate

Data source: China Passenger Car Association, Bocom International

In terms of development trends, new energy vehicles will continue to be supported and promoted by government policies. Many countries have set emission reduction targets and policies to promote new energy vehicles, encouraging consumers to buy and use new energy vehicles. At the same time, the continuous

advancement of technology and the reduction of costs will also promote the development of new energy vehicles. The improvement of battery technology, the construction of charging infrastructure, and the application of technologies such as intelligence and autonomous driving will further enhance the competitiveness and user experience of new energy vehicles. The rapid growth of new energy vehicles has driven the development of the industry chain, and enterprises such as complete vehicles, power batteries, core materials, and key equipment have begun to enter a new round of expansion cycle. As a key new material, the terminal growth rate of electrolyte in China's electrolyte market is higher than the global average, and as the cost and technical advantages of Chinese electrolyte companies continue to increase, the export volume will maintain a compound annual growth rate of 34% in the next five years, and China's electrolyte market share in the global market will continue to increase, and it is expected to reach 74% in 2025, which will simultaneously drive the rapid growth of electrolyte solvents.

The propylene glycol fine chemicals industry has shown a good development momentum driven by demand growth, technological innovation and improved environmental awareness. The downstream fields of propylene glycol are broad, and its main application areas are the manufacture of unsaturated resins (coatings and glass-reinforced resins), polyether polyol initiators, functional liquids (antifreeze, deicing agents, heat transfer fluids), food, medicine, cosmetics, tobacco moisturizing, liquid detergents, paints and coating solvents, etc. With the development of the global economy and the improvement of people's living standards, the demand for propylene glycol continues to increase, especially in the plastics, coatings, cosmetics and other industries. With the increasing attention to food safety and quality, the requirements for food additives are also getting higher and higher. Food-grade propylene glycol, as a commonly used food additive, is widely used in the food industry. With the improvement of environmental awareness, the demand for environmentally friendly propylene glycol products has

increased, and manufacturers have also paid more attention to environmental protection and adopted cleaner and sustainable production technologies. In general, the development prospects of consumer chemicals such as propylene glycol are broad and will play a more important role in future development.

CHAPTER 3

GOLDWIND'S OPERATIONAL STRATEGY IMPROVEMENT COUNTERMEASURES AND SAFEGUARDS

3.1 Goldwind's SWOT Analysis

In order to better evaluate the comprehensive impact of the internal and external environment faced by Goldwind, and further help Goldwind make scientific and reasonable operational strategic decisions, based on the above analysis of Goldwind's external market opportunities

(Opportunities) and market threats (Threats) and internal competitive advantages (Strengths) and competitive disadvantages

(Weaknesses), the SWOT matrix of Goldwind is further constructed, as shown in the following table

Table 3.1 Goldwind's SWOT

Advantages (S)	Disadvantages (W)	Opportunities (O)	Threats (T)
1. Rich talent pool;	1. Accounts receivable and inventory account for a large proportion;	1. Strategic significance of developing new energy vehicles;	1. Rapid expansion of production capacity of existing competitors;
2. Strong technical and R&D capabilities;	2. The company's growth ability has weakened;	2. National development planning and policy support;	2. Strong entry capabilities of potential competitors such as coal chemical industry;
3. Sufficient production capacity;	3. The company's profitability has weakened;	3. Purchasing power of residents for new energy vehicles;	3. Technical development of dimethyl carbonate methanol oxidation carbonylation method;
4. Leading product quality;	4. The company's liquidity has weakened;	4. Residents' willingness to purchase new energy vehicles;	4. Technical development of semi-solid batteries;
5. Rapidly responsive supply chain system;	5. The production cost is higher than that of coal chemical companies.	5. Rapid growth of downstream demand.	
6. High-quality customers.			

Data source: self-made by the author

Table 3.2 - Goldwind's SWOT Matrix Analysis

SO strategy	WO Strategy
1. Deepen the industry and give full play to the advantages of existing production capacity;	1. Improve operational capabilities;
2. Further increase technology and R&D investment to build technical barriers;	2. Improve marketing capabilities and enhance the management of accounts receivable;
3. Firmly grasp existing high-quality customers, deeply bind major customers, consolidate core customer relationships, and increase market share among high-quality customers;	3. Improve bargaining power, increase product pricing power while ensuring sales, and maintain a reasonable profit level;
4. Further improve product quality and enhance product competitiveness;	4. Improve cost control capabilities, actively carry out technical reforms, and reduce production costs.
5. Actively respond to customer needs and solve customer pain points in a timely manner.	
ST strategy	WT Strategy
1. Utilize talent and technical advantages, increase technical reserves and investment, increase technical reserves for semi-solid batteries and solid-state batteries, strengthen new product research and development, and continuously input new products;	1. Strengthen internal management, streamline organizational structure, optimize functions, and enhance competitiveness;
2. Give full play to its own brand, products, timely response and other advantages to enhance customer stickiness;	2. Comprehensively implement cost reduction and efficiency improvement, strengthen cost control, and cut unnecessary investment and expenditure;
3. Focus on overseas markets for differentiated marketing;	3. Reduce unnecessary cash expenditures, actively raise funds, and increase capital liquidity;
4. Seek cooperation or alliance with existing competitors and potential competitors.	4. Continue process iteration and excellent operation to achieve quality and cost leadership.

Data source: self-made by the author

SO strategy is a growth strategy, which requires enterprises to give full play to their own advantages and seize external opportunities. For Goldwind, it is necessary to make full use of its existing production capacity advantages, take advantage of the national development of new energy vehicles, actively respond to the rapidly growing needs of downstream customers, firmly grasp existing high-quality customers, and continuously increase its market share among customers. At the same time, it increases investment in technology and R&D, maintains high-quality product quality, and helps enterprises achieve sustained growth.

WO strategy is a reversal strategy, which requires enterprises to overcome their own disadvantages as much as possible and seize external opportunities. For Goldwind, it is necessary to continuously improve its operating capabilities, marketing capabilities, bargaining power, and cost control capabilities to grasp the growing market demand while ensuring its profitability.

ST strategy is a diversified business strategy, which requires enterprises to give full play to their own advantages and avoid or overcome external threats. For Goldwind, it is necessary to make full use of its own talents and technical advantages, increase investment and reserves in semi-solid batteries and solid-state batteries, and use its existing advantages to increase customer stickiness. At the same time, it focuses on overseas markets for differentiated marketing and seeks cooperation or alliances with existing competitors and potential competitors. WT strategy is a defensive strategy, which requires enterprises to overcome their own disadvantages and avoid external threats. For Goldwind, it is necessary to further strengthen internal management, streamline organizational structure, comprehensively reduce costs and increase efficiency, reduce all unnecessary expenses, continue technology iteration and excellent operation.

According to the comprehensive analysis of the SWOT matrix, Goldwind, as the leader of the solvent industry and the main supplier of fine chemicals such as

propylene glycol, has obvious advantages in talent, technology, production capacity, product quality, and customer resources. On the other hand, it also has outstanding problems in operation ability, growth ability, profitability, liquidity, and production cost. It is necessary to seize the national development of new energy vehicles and seize market share by taking advantage of the rapid growth of downstream demand, and overcome the threats of increasingly competitive market environment and rapid development path of technology iteration.

Through the analysis of the internal and external environment of Goldwind, the internal and external key factors evaluation matrix was used for evaluation and scoring. The total scores of the internal and external key factors were 2.489 and 2.4753 respectively. Therefore, the total scores of the internal and external key factors were slightly lower than the weighted total score of 2.5, indicating that Goldwind has disadvantages in both internal and external environments and needs to constantly overcome its own disadvantages and avoid external threats. It adopts the WT strategy, that is, it needs to further strengthen internal management, streamline the organizational structure, comprehensively reduce costs and increase efficiency, reduce all unnecessary expenses, continue technology iteration and excellent operation, and at the same time deepen technology investment, increase differentiated products, increase customer stickiness, reduce costs, etc., to continuously enhance the core competitiveness of the enterprise.

3.2 Principles of Goldwind's Operation Strategy Improvement Countermeasures

- Implement the overall strategy of Goldwind

In the context of the vigorous development of new energy vehicles in recent years, Goldwind has currently formed a business model driven by lithium-ion

battery electrode liquid solvents and fine chemicals such as propylene glycol, and is committed to becoming a leading new energy material and consumer chemical company with leading technology and market. This paper studies the operation strategy of Goldwind, which aims to optimize the matrix-type agile operation organization oriented to market and customer needs under the overall strategic goal of Goldwind, make up for the shortcomings of Goldwind such as insufficient operation capacity under the drastic changes in the market environment, build open and innovative core competitiveness, provide customers with the most competitive and sustainable green and low-carbon solutions, and truly help Goldwind achieve its strategic goals.

- Operation strategy selection based on QSPM matrix

Based on the analysis in the previous article, this paper introduces the quantitative strategic planning matrix (QSPM matrix) to select the operation strategy of Goldwind.

First, based on the SWOT analysis, four alternative operating strategies are listed, namely, growth strategy, turnaround strategy, diversified business strategy, and defensive strategy; secondly, the key influencing factors in the EFE and IFE matrices mentioned above are introduced, and the weights of each factor follow the average weights of the above EFE and IFE matrices; thirdly, the influence and matching degree of each influencing factor and various strategies are quantitatively analyzed, and the influence and acceptability of each factor under each operating strategy are scored (AS), from 1 to 4. The higher the score, the stronger the strategy's ability to respond to the influencing factor, that is, it can better grasp opportunities, avoid threats, use advantages, and make up for deficiencies; finally, the weighted score TAS is calculated based on the AS score and the weight of each factor. The higher the total TAS score of each strategy, the more feasible and attractive the strategy is for Goldwind. The specific analysis is as follows:

Table 3.3 - QSPM **External** matrix analysis table

Key factors	Weight	Overall strategy							
		Growth strategy		Diversification strategy		Turnaround strategy		Defensive strategy	
External opportunities and threats		A S	TAS	A S	TAS	A S	TAS	A S	TAS
The strategic significance of developing new energy vehicles	0.105	4	0.42	3	0.315	2	0.21	2	0.21
National development plans and policy support	0.1	4	0.4	3	0.3	2	0.2	2	0.2
Residents' purchasing power for new energy vehicles	0.04	4	0.16	3	0.12	3	0.12	2	0.08
Residents' willingness to purchase new energy vehicles	0.105	3	0.315	3	0.315	2	0.21	2	0.21
Rapid growth of downstream demand	0.145	4	0.58	2	0.29	2	0.29	2	0.29
Existing competitors' rapid expansion of production capacity	0.14	1	0.14	2	0.28	3	0.42	4	0.56
Potential competitors such as coal chemical industry have strong entry capabilities	0.156	1	0.156	2	0.312	3	0.468	4	0.624
Technical development of dimethyl carbonate methanol oxidation carbonylation method	0.113	1	0.113	2	0.226	3	0.339	4	0.452
Technical development of semi-solid batteries	0.049	3	0.147	2	0.098	1	0.049	1	0.049
Technical development of solid-state batteries	0.026	2	0.052	1	0.026	1	0.026	1	0.026
Technical development of hydrogen fuel cells	0.021	1	0.021	1	0.021	1	0.021	1	0.021
Subtotal	1		2.504		2.303		2.353		2.722

Data source: self-made by the author

Table 3.4 - QSPM **Internal** matrix analysis table

Key factors	Weight	Overall strategy			
		Growth strategy	Diversification strategy	Turnaround strategy	Defensive strategy
Internal strengths and weaknesses					

Rich talent pool	0.07	3	0.21	4	0.28	3	0.21	3	0.21
Strong technical and R&D capabilities	0.075	4	0.3	4	0.3	3	0.225	3	0.225
Sufficient production capacity	0.075	1	0.075	2	0.15	3	0.225	4	0.3
Leading product quality	0.074	2	0.148	2	0.148	2	0.148	3	0.222
Quick response supply chain system	0.064	3	0.192	3	0.192	3	0.192	3	0.192
High-quality customers	0.114	3	0.342	2	0.228	3	0.342	2	0.228
Large proportion of accounts receivable and inventory	0.044	2	0.088	2	0.088	3	0.132	3	0.132
Weakened growth ability of the enterprise	0.137	3	0.411	4	0.548	3	0.411	2	0.274
Weakened profitability of the enterprise	0.208	2	0.416	3	0.624	4	0.832	4	0.832
Weakened liquidity of the enterprise	0.062	1	0.062	1	0.062	2	0.124	4	0.248
Higher production costs than coal chemical enterprises	0.077	1	0.077	1	0.077	2	0.154	4	0.308
Subtotal	1		2.321		2.697		2.995		3.171
Total	2		4.825		5		5.348		5.893

Data source: self-made by the author

According to the analysis of Table 3.3, the most attractive strategy for Goldwind is the defensive strategy, with a value of 5.893, followed by the reversal strategy, with a value of 5.348, followed by the diversification strategy, with a value of 5, and finally the growth strategy, with a value of 4.825. It can be seen that due to the rapid growth in the past few years, at the current stage of overcapacity, the defensive strategy is the main tone of Goldwind's corporate operating strategy, that is, it is necessary to further strengthen internal management, streamline the organizational structure, comprehensively reduce costs and increase efficiency, reduce all unnecessary expenses, continue technological iteration and excellent operation, deepen technological investment, increase differentiated products, increase customer stickiness, reduce costs, etc., and continuously enhance the core competitiveness of the enterprise.

3.3 Specific content of Goldwind's operational strategy improvement

From the above analysis, it can be seen that Goldwind needs to adopt a defensive strategy to change the current situation in order to continuously enhance the core competitiveness of the enterprise. This section combines the problems of the current operating strategy of Goldwind Company, the internal and external environment analysis, SWOT analysis, etc., and closely focuses on the "defensive" strategy, from strategic planning to organizational structure adjustment to the whole value chain collaboration to propose specific operating strategy improvement content.

- Formulate capital operation strategy

The capital operation strategy includes two aspects: capital raising and capital investment. The company has not formulated a capital operation strategy, so it is necessary to formulate a capital operation strategy to help the company better finance and invest.

In terms of capital raising, Goldwind Company, as a non-listed company, mainly relied on bank loans, project loans and other financing methods. However, Goldwind Company was successfully listed in 2023. It is necessary to combine Goldwind Company's strategic development plan and future capital needs to raise funds through multiple channels. Financing tools for listed companies include equity financing, debt financing and equity-debt combination: equity financing mainly includes issuance to specific objects (non-public issuance) and issuance to unspecified objects (public issuance); debt financing mainly includes corporate bonds, short-term financing/medium-term notes and bank loans; convertible bonds and preferred stocks are equity-debt combination financing products. In practice, convertible bonds show strong equity characteristics, while preferred stocks show strong debt characteristics. Therefore, convertible bonds are regarded as equity

financing tools and preferred stocks are regarded as debt financing tools. Goldwind Company needs to formulate flexible, multi-channel and low-cost financing strategies in combination with the company's development plan, capital needs, capital market environment and other aspects. In terms of capital investment, it is necessary to study how to allocate funds to production, R&D, project investment, acquisition and other aspects. For example, idle funds can be used through large-denomination certificates of deposit, agreement deposits and arbitrage to improve financial management income; whether the company's funds are used for self-construction projects or to achieve industrial layout through mergers and acquisitions; according to the company's annual strategic plan, undertake the company's investment, mergers and acquisitions, restructuring and other work; according to market conditions, formulate and implement share repurchases, equity incentives and other matters. Therefore, Goldwind Company needs to formulate a capital operation strategy in combination with the company's overall development strategy to help enterprises realize the company's value in terms of capital.

- Carry out organizational structure reform

With the rapid expansion of Goldwind Company in recent years, the organizational structure has become increasingly complex, with more than 20 functional departments alone, and the problems of overlapping functions and vacancies coexist. It is urgent to carry out organizational structure reform to optimize and enhance organizational capabilities. Establish a flat organizational structure, and build a structured architecture that conforms to the business with operations, marketing, R&D, production and functions. Strengthen integrated operations and establish a market operations department to be responsible for the implementation and execution of the daily operations of the entire group. Establish a marketing center, optimize the marketing talent team, formulate scientific performance to track process and result indicators; dual-wheel drive, integrate business departments with lithium battery materials and fine chemicals as dual

product lines; strengthen overseas marketing, accelerate the landing of the US company, and supplement the overseas team; adopt an elite strategy, establish a marketing promotion and demotion mechanism, so that marketing personnel can be promoted and demoted, and achieve "blood transfusion" for marketing personnel; optimize resource allocation, cancel the customer service department, establish a trade sales team, and expand the company's sales channels. Establish an R&D center, consolidate the R&D team, strengthen the input-output management of the R&D team, and improve R&D efficiency; strengthen the project system and strengthen the performance management of the project team; flat management, evaluate professional personnel through qualifications; eliminate the last place and achieve blood transfusion; the R&D center focuses on the R&D of new products and new technologies; the R&D of existing businesses is transferred to the production center, and attention is paid to the implementation of technology. Establish a production center, which focuses on production itself, technology leadership, production cost control, and management consistency; uniformly manage technical research, production scheduling, intelligent implementation, project promotion, etc. at the production center level; standardize the configuration of operation department, storage and transportation department, and quality inspection department in each factory; integrate some functions of the production technology department with the engineering equipment department, and adjust the management department. Establish a functional center with functions such as human resources, administration, enterprise management, quality control, and procurement, simplify functional departments, optimize personnel and improve efficiency.

- Strengthen innovation management

Increase R&D investment and strengthen innovation management, continue to innovate, enrich product line combinations, create three innovative R&D platforms, support the incubation of "new products/new technologies/new

markets", create a "small and beautiful" high-profit product portfolio sequence, and quickly expand production when the market is released, and be at the forefront of the industry.

Continue to develop new processes and technologies for existing businesses. New solvent process development: urea method pilot test; additive continuous process development: VC and FEC continuous; additive LiFSI new technology development: liquid salt technology; electrolyte washing kettle refining and purification processing; additive three waste comprehensive utilization process development; 1,3-butanediol/dipropylene glycol odor improvement.

Customized on demand, creating a customer compound customization development platform. Sodium electrolyte compounding technology reserve: develop sodium electrolyte formula, bind leading customers such as Zhongke Haina for reserve; anti-corrosion and moisturizing compound product development: develop anti-corrosion and moisturizing compound system based on existing alcohol products to help product trade; compound customization processing: ionic liquid/cooling liquid/moisturizing liquid.

New product development based on customer needs, new product incubation. Enter the polycarbonate diol biodegradable materials;

Develop leaf alcohol technology to achieve import substitution and enter the fragrance business; Undertake the pilot verification of LFO, PVP and other products of the Institute;

Develop new additives technology such as NaFSI/NaPF₆/TMSP/DENE/FB; Product verification, small batch supply, and customer binding.

- Strengthen marketing management

Lithium-ion battery electrolyte solvents, deeply bind downstream major customers

Consolidate the global leader position of solvents, consolidate BYD's absolute A supply; deepen TC cooperation relationship; improve other customers

Cooperation relationship.

Continue to consolidate BYD's absolute A supply position and quickly deliver stable supply of multiple bases and multiple products. Innovate domestic value-added services, quickly deliver inventory trusteeship services, create BYD delivery models, and build a new model of rapid delivery; entrust Goldwind Company with full inventory management to reduce delivery and testing costs; enhance the value of Goldwind Company and further consolidate the cooperative relationship; renew BYD long-term cooperation agreement; product synergy combination: introduce new product additives and lithium salt verification to deepen the cooperation dimension. Actively plan to bid for BYD overseas lithium battery-electrolyte-solvent/additive projects and give priority to entry. Continue to consolidate TC's A supply position, and efficiently match domestic and foreign bases to cooperate with overseas layout. Multi-base matching TC, stable supply capacity, meet TC's demand for high-end products; Dongying/Jiangsu/Hubei three bases and overseas warehousing front-end multi-point layout match TC's production capacity layout distribution needs; provide refined and efficient services; provide customized products; continue to stably provide TC liquid salt high-end viscous products. Actively plan to bid for TC's overseas electrolyte solvent projects and obtain more than 50% of its overseas projects; leverage our experience in Europe and the United States to actively cooperate with TC's overseas electrolyte project construction; increase the solvent/ethyl acetate business; import and verify the customized cooperation of new solvents, and deepen cooperation in solvents such as ethyl acetate; import and verify cooperation of new additives; promote cooperation on overseas additives.

Accelerate the speed of going overseas in Europe and the United States, accurately position, and tap into the profit value-added of the supply chain. Shape the US electrolyte supply chain model and tap into profit growth points; preemptively verify US electrolyte factories, position in advance, and obtain

first-tier certification; establish a localized 500-ton inventory for SL-USA and quickly increase the volume among SL customers. Fine chemicals such as propylene glycol, differentiated marketing

Alcohol consumer chemicals face the challenges of oversupply and quality upgrades. At the same time, alcohol consumer chemicals lack the input of new products. In this context, fine chemicals such as propylene glycol need to be differentiated in marketing. Consolidate the domestic high-end PG share and seize the share through differentiated marketing overseas. Key measures for overseas markets: high-end conversion, focusing on developing business opportunities in South America and Africa; terminal development: using the dual certificates of pharmaceutical excipients and food to develop overseas markets and enhance customer persuasion. Key measures for domestic markets: differentiated customer management strategy, focus on maintaining core customers, and strengthen customer relationship maintenance; high-premium small and medium-sized customers: optimize efficient and convenient delivery service network, serve small and medium-sized customer groups well, and improve customer stickiness. Strengthen overseas market development, differentiated marketing to increase high-end conversion volume. Increase the market share of butanediol in daily chemicals, actively expand new applications of lithium batteries, expand overseas markets, focus on market segments such as flavors and special industries, strengthen overseas market development, differentiated marketing to increase high-end conversion volume, consolidate high-end PG share in China, and seize market share through differentiated marketing overseas to accelerate the speed of going overseas in Europe and the United States, accurately position, and tap into supply chain profit value-added. Increase the market share of butanediol in daily chemicals, and actively expand new applications of lithium batteries. Optimize the cosmetics customer structure, with domestic terminals accounting for 60%; in the lithium battery negative electrode template, pass the YWLN and GXGK

certifications and start production; upgrade the quality and launch electronic grade specifications; promote 16949 certification.

- Strengthen the cost management of the entire value chain

Control the key nodes according to the value chain, promote the mechanism of excellent operation, and implement the cost control of the entire value chain such as production, procurement, sales, and supply chain.

Production management

The new device needs to build the ability to operate the device stably

First, strictly manage the raw materials. In the preparation stage of raw and auxiliary materials, the specifications of raw and auxiliary materials are signed and approved according to the authority, and the matching degree between raw and auxiliary material indicators and production demand indicators is 100%.

Secondly, the production personnel should be improved. The technical innovation center supports theoretical training and practical training of on-site personnel in the same industry, and the skills reach 100% of the job qualifications. Organize the personnel in the corresponding positions to obtain 100% certification of special professionals in chlorination and fluorination, visit experts in the industry, investigate the difficulties and pain points of the device operation, and grasp the difficulties and pain points of the device operation to achieve 80% coverage. As a talent reserve before the start of construction, technical exchanges with peer companies in the industry are carried out, and targeted analysis and optimization are carried out for their start-up problems, so as to plan 100% of unexpected response plans in advance.

Thirdly, we need to do a good job in quality management, build a quality inspection system, shape a quality control team, and implement a full life cycle quality control system. Excellent quality control supports cost reduction and efficiency improvement. Laboratory management CNAS certification, establish a systematic analysis model, quality inspection skills competition, and advance

practical training. Thirdly, we need to improve team management and operation capabilities, select elite talents, and build a new device production and operation team in advance, covering a full set of talents from synthesis to refined crystallization; conduct continuous review and summary according to the process flow; continuously optimize process difficulties; improve the yield rate and ensure that the product $CPK \geq 1.33$, $PPK \geq 1.67$; identify the key control points of the intermediate process, and statistically control the process SPC: rapid response 100%; conduct PCPC forward and reverse combing; sink the safety and environmental protection functions: learn from the safety management experience of the same industry, and the safety management team sinks to the front line to be responsible for both safety and production. Finally, build a new product quality control system. Introduce 16949 system, product control plan and PFEAM data preparation, identify key quality control points; excellent quality management, improve product quality and stability.

The original device consolidates stable operation capacity and continuously reduces unit consumption and energy consumption

Through technical transformation of equipment, develop new catalysts to reduce unit material consumption of the device; at the same time, implement energy management system, monitor and analyze energy consumption, identify potential energy saving measures, and reduce energy waste and device energy consumption through cascade utilization of steam, recovery and reuse of waste heat, residual heat, wastewater, waste gas and other resources. The material consumption and energy consumption of the device are reduced to the best level in history. At the same time, the company dynamically adjusts the product ratio according to the price of product EMC and DEC, effectively reducing product costs and maximizing the benefits of the device.

Technology iteration to continuously reduce costs and increase efficiency

Through continuous technology iteration, such as EMC process optimization, DMC process optimization, EC process optimization, PG process optimization, odor optimization and other continuous process optimization, we can achieve energy consumption reduction, improve product quality, realize waste recycling, increase production capacity, shorten process flow, and improve the refining and odor improvement capabilities of alcohol products.

Integrated operation, determine the optimal base and optimal product combination production scheduling

In the case of insufficient capacity utilization, the integrated operation team comprehensively evaluates factors such as raw material procurement cost, production cost, load cost, and transportation distance to determine the device with the lowest comprehensive cost to maintain the highest load. At the same time, according to the market situation of each product and combined with customer needs, adjust the structure or proportion to maximize profitability.

Improve safety and environmental protection capabilities, and the company-level safety and environmental protection accidents are zero

Adhere to the safety policy of "safety first, strengthen safety awareness", "prevention first, do a good job in intrinsic safety", "full participation, implement local management", and "comprehensive governance, improve safety culture", and use scientific tools and methods to systematically identify risks and formulate effective control measures to prevent accidents and ensure safe production. We will unswervingly implement the core safety concept of "life is priceless, responsibility is paramount", take the "Ten Safety Principles" as the basis for management decisions and the guide for action, lead all employees to cultivate a good safety culture, continuously improve the company's safety performance, ensure that the company's safety and environmental accidents are zero, and create a safe environment for the company's production.

Procurement Management

In terms of procurement, we must first strengthen the management of suppliers, strengthen the daily management and performance evaluation of suppliers, ensure that the quality, delivery, price and service of the products supplied by suppliers can continue to meet the company's requirements, and combine the supplier positioning to determine the management development direction of suppliers for continuous improvement to achieve win-win value; supplier performance evaluation management follows the principle of "unified management, dynamic evaluation, and support for the best and elimination of the worst", and realize the information management of the entire life cycle, such as evaluation, development, freezing/exit. Secondly, we will continuously optimize the supplier structure, improve the supplier network, cultivate new suppliers with low costs, and increase supplier competition while reducing procurement costs. We also need to reduce procurement prices through multiple channels, such as reducing raw material procurement costs through contract volume gradient preferential negotiations, deep binding with strategic suppliers, innovative procurement models, multi-process channel raw material blending, cross-industry joint procurement, etc. Finally, we need to flexibly grasp the market situation, increase storage and external procurement capabilities, and achieve the optimal configuration of raw material procurement.

- Sales management

In terms of sales, we need to control the weekly order volume, adjust the order rhythm according to the inventory volume, and increase prices in a timely manner; according to the customer's price situation, we need to adjust the delivery time interval to achieve the optimal order delivery. By actively integrating marketing and sales channels, we can achieve reasonable configuration of customers.

- Supply chain management

In terms of supply chain, we need to deeply tap the potential and increase efficiency in all links of the supply chain. We need to innovate the carrier structure, develop land-rail combined transportation, increase the full load rate of a single vehicle, and take measures such as bidding for land transportation tanks to continuously reduce the freight per ton. Take various measures to improve the supply chain delivery level, strengthen the coordinated operation of overseas warehouse supply chain, and improve the efficiency of foreign trade delivery; continue to explore and implement multimodal transport and other logistics delivery modes; promote the optimal delivery route execution rate $\geq 90\%$; new product delivery satisfaction rate 100%; raw material delivery timeliness rate $\geq 98\%$. Take advantage of the location advantage to carry out multi-base efficient and low-cost delivery.

- Guarantee of Goldwind's operational strategy improvement

Corporate culture is the sum of the essential characteristics of basic beliefs, value orientations, thinking patterns and behaviors that are considered effective and shared by organizational members in the long-term problem-solving process. The core values of Goldwind are "learning, learning, and learning again; moving forward, moving forward, and moving forward again; learning bravely, opening up innovation, striving for leadership, and achieving customer success". Corporate culture is the concentrated embodiment of the core concepts and key value elements of corporate management, and also includes the resulting organizational behavior and individual behavior. Companies that have been successful all the time usually create something special to replace the company's leading advantages in strategy, market image or technology. The learning-oriented corporate culture of Goldwind needs to be constantly promoted, implemented and executed, so that employees can identify with the corporate culture of Goldwind from the bottom of their hearts, and then truly demonstrate it with practical actions to help realize the corporate strategy.

Good safety performance creates benefits, especially for production-oriented chemical companies.

Excellent safety assurance is a solid foundation and continuous driving force for companies to achieve outstanding performance and establish a good social image; good safety can reduce direct losses and create indirect profits for the company; good safety performance can improve social visibility, confidence, recognition, etc.; good safety performance improves employee happiness and creates conditions for the company's continued profitability. Only by ensuring that the company is always in a safe state can we talk about the company's development and the realization of the company's strategic goals.

Goldwind has invested heavily in safety assurance, forming a safety vision of "becoming a respected benchmark enterprise for safety management in China" and a safety concept of "life is priceless, responsibility first". Goldwind adheres to the belief of "always pursuing zero accidents, all accidents can be prevented, and good safety performance creates benefits", and takes "all employees must receive strict safety training, managers at all levels must participate in safety inspections and audits, accident hazards must be actively and promptly rectified, and all accidents must be reported, analyzed, and shared in a timely manner" as the code of conduct. Actively carry out various types of safety training, through which new employees can master the most basic safety, environmental, and occupational health knowledge, understand the various hazards, risks, and related preventive measures in the factory to reduce the possibility of accidents.

In order to ensure that the company's strategic goals can be decomposed and implemented layer by layer, ensure the smooth realization of the company's overall strategic goals, ensure that employees' personal efforts are reasonably rewarded, and mobilize the work enthusiasm of all employees, a fair and just incentive system is needed to ensure it.

The incentive mechanism of Goldwind mainly includes salary mechanism, training mechanism, promotion mechanism, etc.

The remuneration mechanism adheres to the basic principle of "determining grades based on positions, determining salaries based on grades, determining files based on abilities, and determining awards based on performance", and establishes a unified remuneration system based on job value and market orientation to ensure the internal fairness of remuneration distribution and the external competitiveness of remuneration levels. Employee remuneration is divided into three parts: basic salary, allowances, and performance rewards. Among them, basic salary and allowances are paid monthly, and performance rewards are paid annually or semi-annually according to the company's performance. Performance management adheres to the "performance and ability-oriented principle", "the principle of combining qualitative and quantitative assessment", "the principle of openness, fairness, and justice", "the principle of timeliness", and "the principle of process management application: strengthen the process management of employees' personal performance and the application of results to improve employees' work enthusiasm". The training mechanism is open to all employees of the company and covers all types of training management work of the company, including training for new employees, training for on-the-job employees, training for transfer personnel, training for waiting personnel, training for certification, outsourcing training, and internship training for foreign personnel. It aims to further improve the requirements for employee training management, improve the comprehensive quality of all employees, and give full play to the advantages of human resources. The promotion mechanism is to build a professional development channel and a scientific and reasonable qualification system for Goldwind, form a management system and long-term mechanism for qualification, and enhance the professional level of Goldwind's project team through empowerment. Through the establishment of the qualification system, Goldwind can build a fertile soil for

talents, achieve accurate selection, good use, fast growth, and retention, and employees will be motivated, energetic, and hopeful. Accurate selection: There are standards, tools, and methods, scientific and accurate external recruitment and internal selection; through talent inventory, find out the distribution of talent capabilities within the group, and when vacancies appear, the excellent people in the group can be quickly selected to take up the position. Good use: Encourage employees to develop into experts and technicians, expand the professional talent team, and support the strategic development requirements of Goldwind; on-the-job personnel must perform their job duties in a qualified manner, and the scientific qualification system makes every salary meaningful and improves the efficiency of human capital. Fast growth: Through the promotion of the qualification system, employees will understand the corresponding ability requirements of each level, so as to consciously compare their own traction ability development, encourage employees to learn spontaneously and accelerate development; managers can design targeted learning and improvement projects according to the team members' inadequacies and shortcomings to accelerate team growth. Retention: Through the construction of the management-professional dual-channel system, all kinds of talents have broad career development channels, truly realizing the goal of retaining talents for career and future.

CONCLUSIONS

Based on the research and analysis of enterprise management in Goldwind, the following conclusions and proposals are made:

1.Link Between Product Competitiveness and Enterprise Competitiveness

It is clear that product competitiveness and overall enterprise competitiveness are closely linked and essential for the survival and growth of the company. The success of Goldwind in the competitive market directly depends on the competitiveness of its products, as well as the company's broader economic strategies and commercial activities, which influence the outcome of competition within the industry.

2.Internal and External Factors Influencing Competitiveness

The competitiveness of Goldwind is influenced by both internal and external factors. Internal factors include the effective use of capital, liquidity and solvency ratios, business activity, and operational efficiency. External factors involve market conditions such as political risks, the competitive structure of the industry, and the presence of wholesale and retail distributors in the region.

3.Methodology for Analyzing Competitiveness

The study employed SWOT analysis and the QSPM matrix to evaluate the current state of Goldwind's competitiveness. The analysis also involved assessing the company's strategic position using principal component analysis, supported by SPSS 19.0 software, which allowed for a clear understanding of the company's competitive standing.

4.Improvements to Operational Strategy

The research indicates that Goldwind's operational productivity has potential, but to increase its competitiveness, a more detailed review of internal operations is required. Enterprise competitiveness reflects the company's overall performance and success in the market over time, particularly relative to its competitors.

Improving Goldwind's competitive position will require a deep dive into strategic improvements in various operational areas.

5. Proposed Measures to Enhance Competitiveness

To boost the competitiveness of Goldwind's products, the following actions are recommended:

Maximize the efficient use of existing resources.

Invest in research and development of new technologies and production methods.

Improve production processes and labor organization to reduce inefficiencies.

Focus on enhancing the competitive potential of the entire company through internal improvements and market adaptation.

6. Enhancing Product Quality for Competitive Advantage

Improving product quality is critical to enhancing Goldwind's competitiveness in the market. By producing high-quality products, the company can ensure better market acceptance and strengthen its position against competitors. The research confirms that ensuring quality at every stage of the product lifecycle is essential for maintaining competitive strength.

7. The Role of Informatization in Enhancing Operational Efficiency

The informatization of Goldwind's production process, including the integration of mechatronics, automation, and smart technologies, is crucial for improving overall efficiency. The application of electronic information technologies at every stage of production and service will lead to energy savings and improved operational effectiveness, further enhancing the company's competitiveness.

By implementing these recommendations, Goldwind can improve its competitiveness, optimize internal operations, and strengthen its market position.

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APPENDIXES