

THE IMPACT OF MERGERS AND ACQUISITIONS ON FINANCIAL PERFORMANCE OF NEW CHEMICAL MATERIALS ENTERPRISES - A CASE STUDY OF JINFA TECHNOLOGY'S ACQUISITION OF BAOLAI

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ABSTRACT

With the accelerated development of globalization, new materials have become an important pillar of national economic development, playing a vital role in high-end manufacturing and the national defence industry, and becoming the focus of international strategic competition. China's new materials industry has been considered an important part of the seven strategic emerging industries, providing a solid foundation for the development of the nation's manufacturing industry. This study took the case of the acquisition of 51.09% stake in Baolai by Jinfa Technology. The objectives of the study were: 1) To explore the impact of operational synergy on the financial performance of Jinfa Technology; 2) To explore the impact of financial synergy on the financial performance of Jinfa Technology and 3) To explore the impact of managerial synergy on the financial performance of Jinfa Technology.

This study adopted the quantitative research method to gain an in-depth understanding of the status quo of the financial performance of Jinfa Technology, with Jinfa Technology as the research subject. A total of 240 valid questionnaires were collected in the questionnaire survey, and SPSS statistical analysis software was further used to analyze the influencing factors behind this status quo in depth. Reliability analysis, descriptive statistical analysis, correlation analysis and regression analysis were conducted on the valid data.

This study found that the operational, financial and managerial synergy of Jinfa Technology all have a significant positive impact on its financial performance. Operational synergy directly contributed to the improvement of financial performance by enhancing resource utilization efficiency and market competitiveness; financial synergy indirectly enhanced profitability by optimizing capital allocation and

controlling costs; and managerial synergy further contributed to the growth of the company's financial performance by enhancing management efficiency and decision-making quality.

Keywords: mergers and acquisitions, synergy effect theory, financial performance



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Yan Yuanmeng

DECLARATION

I, Yan Yuanmeng, hereby declare that this Independent Study entitled "The Impact of Mergers and Acquisitions on Financial Performance of New Chemical Materials Enterprises - A Case Study of Jinfa Technology's Acquisition of Baolai" is an original work and has never been submitted to any academic institution for a degree.

(Yan Yuanmeng)

Yan

Sep 25, 2024

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Chapter 1 Introduction

1.1 Background of the Study

Mergers and acquisitions (M&A) emerged in the United States at the end of the nineteenth century and the beginning of the twentieth century as one of the most important ways of corporate development. Under the five waves of mergers and acquisitions in the United States in the twentieth century, mergers and acquisitions have become an important means for each enterprise to realize rapid expansion. Prof. Stiegel, through his research on M&A cases, found that the world's largest 500 companies have adopted M&A as a means of development. Under the global wave of mergers and acquisitions, China's mergers and acquisitions activities have also kicked off. Especially in recent years, China's M&A market has been developing at a high speed, and more and more enterprises have begun to realize the purpose of adjusting their existing product structure and expanding their business scope through M&A (Wang, 2023).

In recent year, as a cornerstone industry supporting the development of other emerging industries, the new chemical materials industry has been emphasized by various countries. China has also taken the new chemical materials industry as a strategic emerging industry in recent years, and under the support of various policies, China's new chemical materials industry has been greatly developed, and the development environment has continued to improve, and the prototype of the industrial regional cluster has been formed (Xu, 2020). However, due to the late start of the development of China's new chemical materials industry, there is still a distance from the international advanced level. New materials have been widely used in various fields such as national economy, national defense and military, and have been subjected to rapid development in China's chemical market, and new materials are becoming the driving force of the petrochemical industry with the highest development speed and quality. In recent years, China's new chemical materials market has been developing rapidly, with an average growth rate of more than 10%, while the growth rate of some important new materials even exceeds 20%, which indicates that China's new chemical materials market has great potential for development. Consumption of new materials will continue to grow in industries such as engineering and daily necessities, and the market space is expected to expand further, with some advanced new chemical materials having already made great progress. As the supply of certain basic products is far below the market demand, some of them have even reached a serious shortage of 50% (Ni, 2022).

Since 2017 the number of investment and financing events in China's new chemical materials industry fluctuates and changes, in which in 2017, the number of investment and financing events occurring in China's new chemical materials industry reached a peak. The scale of investment reached a peak in 2021. In 2022, about five investment and financing events occurred in China's new chemical materials industry in the whole year, and the scale of investment was more than 900 million yuan; in 2023 As of May 11, the investment scale of China's new chemical materials industry exceeded 100 million yuan (Prospect Industry Research Institute, 2023).

To sum up, this study chooses Jinfa Technology's merger and acquisition of Baolai as the object of study, hoping that through the in-depth analysis of this merger and acquisition activity, it will provide new reference ideas for mergers and acquisitions in the new chemical materials industry.

1.2 Questions of the Study

In this era of sustained economic growth and capital market improvement, mergers and acquisitions (M&A) have also become a way and means for enterprises to rapidly expand their strategic markets, integrate resources and optimize allocation, and the number of M&A and the scale of M&A transactions in China are also increasing. M&A is an inevitable phenomenon in the process of enterprise development and growth, and M&A is related to the future development and operation of enterprises. The new chemical materials industry is characterized by fierce competition, compressed profit margins, unstable supply chains, and enormous challenges and difficulties in the development of the company. Therefore, the following questions are raised:

- (1) What is the impact of operational synergy on the financial performance of Jinfa Technology?
- (2) What is the impact of financial synergy on the financial performance of Jinfa Technology?
- (3) What is the impact of managerial synergy on the financial performance of Jinfa Technology?

1.3 Objectives of the Study

In recent years, China attaches great importance to and has introduced a number of policies to encourage and support the development and innovation of cutting-edge new materials industry, polymer modified materials as an important branch of the field of new chemical materials, widely used in home appliances, automobiles, communications and many other national pillar industries and emerging industries.

Mergers and acquisitions are among the effective ways for enterprises to expand their business scale. The main research objectives of this study are as follows:

- (1) To explore the impact of operational synergy on the financial performance of Jinfa Technology.
- (2) To explore the impact of financial synergy on the financial performance of Jinfa Technology.
- (3) To explore the impact of managerial synergy on the financial performance of Jinfa Technology.

1.4 Scope of the Study

The scope of this study was Jinfa Technology Company Limited and other companies were excluded from the study. The subjects of the study were the employees of Jinfa Technology Co. The employees had at least working experience in Jinfa Technology, have some knowledge about Jinfa Technology and can make some evaluation. The time frame of the study was from November 1, 2023 to June 30, 2024. A questionnaire was used to collect data for the study. The questionnaire contained two main sections. The first part was the basic information about the survey sample. The second part focused on evaluating the managerial synergy, financial synergy, operational synergy and financial performance.

1.5 Significance of the Study

New material technology is more and more widely used in people's daily life and work, with the rapid development of China's social and economic development, the demand for the application of new chemical materials will also increase.

1.5.1 Theoretical significance

In terms of theoretical significance, scholars at home and abroad have been paying attention to the merger and acquisition activities of enterprises and have conducted more research and analysis on them, but most scholars either analyze the mergers and acquisitions from the perspective of horizontal and vertical mergers and acquisitions, or use empirical research methodology to study and analyze the mergers and acquisitions activities for the industry, especially for the mergers and acquisitions of the new chemical materials enterprises in China, which is less researched. Since the characteristics of each industry are different, the motivation for M&A is also different, and the success rate of M&A is also different, therefore, this study analyzes the successful M&A case of Baolai by Jinfa Technology, and analyzes the performance of M&A and the industrial synergy effect by using multiple perspectives, which is

expected to provide a reference for the M&A of other chemical and new material enterprises, and to supplement the M&A of the industry and to enrich the research of China's new material enterprises in the field of chemical and new material enterprises. It is expected to provide reference and reference for the M&A of other new chemical material enterprises, to supplement the industry M&A, and to further enrich China's research on the M&A activities of new chemical material enterprises, which has certain academic value.

1.5.2 Practical significance

In terms of practical significance, industry chain mergers and acquisitions are highly practicable. Enterprises with advantages in the relatively perfect industry chain have high-quality customers, high market share and advanced production technology. Enterprises can obtain relatively inexpensive raw materials for upstream development, while downstream development can harvest huge markets, which is of great practical significance for enterprises to further improve product quality, reduce product costs, innovate business models, and change the mode of growth. By studying the performance of the case before and after the merger and acquisition, this study has a certain incentive significance for the merger and acquisition of new material enterprises, and also can provide new ideas for the merger and acquisition activities of other new chemical material enterprises, promote the establishment of a perfect ecosystem of emerging industries, promote the development of national science and technology in the great circle, and have practical significance for the realization of the strategy of science and technology innovation.

1.6 Definition of Key Terms

1.6.1 M&A

Through mergers and acquisitions, enterprises can not only change their industrial structure, but also optimize their resource allocation, thus making them stand out. Especially for the new chemical material enterprises, M&A is more challenging, it can not only solve the development difficulties, but also provide a new path for them to realize industrial upgrading.

1.6.2 M&A Performance

The performance of M&A, as a comprehensive manifestation of the re-adjustment of business strategy, resource integration and changes in operating efficiency after the completion of M&A, reflects not only the realization of M&A objectives, but also the development process of the enterprise and the effective allocation of resources after M&A. In order to comprehensively delimit whether an M&A is successful or not, it is

necessary to comprehensively consider a number of factors, such as expected synergy, the development process of the enterprise and the effective allocation of resources. The in-depth study and analysis of these factors constitute the core content of M&A performance research.

1.6.3 Operational Synergy

In the course of business operations, through merging, cooperating or integrating resources, different business units or companies are able to generate benefits among themselves that exceed those that would be realized if the individual units operated independently.

1.6.4 Financial Synergy

After two companies or businesses merge, acquire, or collaborate, they can achieve better financial performance or economic benefits than operating independently by integrating their financial resources, optimizing capital structure, or improving cash flow.

1.6.5 Managerial Synergy

The benefits generated from the integration of management teams' capabilities, experience, or leadership styles through mergers, acquisitions, or internal business consolidation between companies.

1.6.6 Managerial Performance

The financial results realized by an enterprise through its business activities in a certain period of time, an important basis for assessing the economic value and operational effectiveness of an enterprise.

1.6.7 New Chemical Materials Enterprises

New materials refer to newly invented and researched materials with strong performance and some special functions that traditional materials do not have. As the name suggests, new chemical materials are the subdivision of new materials in the field of chemical industry materials, new chemical materials are usually characterized by high efficiency, high quality, high technology content, green and non-polluting compared with traditional chemical materials.

Chapter 2 Literature Review

2.1 Introduction

2.1.1 Acquirer: Jinfa Technology

Founded in 1993, Jinfa Technology Co., Ltd. was listed on the Shanghai Stock Exchange in 2014, with a total share capital of 2.657 billion yuan and a stock code of 600143. Through the hard work and efforts of all employees, the company has transformed from an initial capital of 20,000 yuan to annual sales of 20 billion yuan, and it has already spread to more than 130 countries and regions around the world, providing high-quality services for more than 1,000 famous enterprises (Bai, 2022). In September 2022, the company was ranked 183rd in the list of "Top 500 Private Enterprises in Manufacturing Industry in China", attracting global attention. With the continuous development of Jinfa Technology, it constantly adjusts its own strategy, actively responds to changes in the market and national policies, and utilizes the power of the capital market, which not only promotes the development of the enterprise, but also provides a strong support for the development of the domestic plastics industry, and enables it to maintain good competitiveness (Ni, 2022).

2.1.2 Acquired: Baolai

From the beginning of its establishment on January 20, 2020, Baolai has been committed to building a green petrochemical segment, with a registered capital of RMB 3.68 billion and a land area of about 3,000 acres. It expects to fill the domestic vacancy and make up for the market shortage with quality and high value-added products. Leveraging on the rich raw material reserves and logistics network within the Group and the high quality foundation of the petrochemical industry base in Liaodong Bay New Area, it will invest RMB 10.7 billion in a 600,000 tons/year ABS and its related equipment project, utilizing the most advanced international technology and equipment, in order to promote economic development. Located in Panjin City, Liaoning Province, the Liaodong Bay New District is a key petrochemical industry base planned by the state, with perfect infrastructure, including a 300,000-ton crude oil terminal and a specialized chemical terminal, with good resource conditions and location advantages, making it an attractive investment location. On October 8, 2020, the company formally initiated the feat, which has lasted for 567 days of arduous efforts, spanning three years of After 567 days of hard work and three years of hardship, the company overcame various difficulties such as winter construction, epidemics, and lagging progress, adhered to the principle of "one family, one heart, one board". Adopting effective management measures and incentive mechanism, accelerating the construction pace,

coordinating the allocation of human and material resources, and collaborating with all participating units, we ultimately completed the overall high-standard project ahead of schedule, finishing one month earlier than the original date of June 30, on May 30. As Baolai has a strong raw material supply capacity, Jinfa Technology decided to acquire it to meet its demand for high-quality raw materials (Ni, 2022).

2.2 Synergy Effect Theory

The theory of synergistic effect holds that the main motive for enterprises to carry out mergers and acquisitions is to obtain synergistic effect. According to this theory, through M&A activities, enterprises can optimize their production, operation and management processes, thus enhancing the overall performance of the enterprise, making its operating results exceed the operating results of the two parties before the M&A, and realizing the effect of 1+1>2, which is significantly reflected in the operation, management and financial aspects (Igor, 1965).

Operational synergy: Stark (1999) points out that the key to operational synergy lies in the increased efficiency of resource integration, which can significantly reduce production costs and strengthen the firm's market position. Lubatkin (1987) pointed out that the realization of operational synergy can ultimately contribute to the improvement of financial performance by enhancing product production efficiency, expanding market share and optimizing supply chain management. Marcos (1996) further stated that operational synergy is particularly applicable to horizontal M&As because it can directly bring about cost savings and revenue growth, which can have a positive impact on the financial performance of the firm. Johnson (2018) pointed out in his study that integrating the supply chain and optimizing the production process through M&As can bring about significant cost savings and efficiency gains, especially in the context of globalization, where market expansion further improves the efficiency of the supply chain. context, market expansion further enhances firms' profitability. Smith (2020) also showed that vertical M&As help firms gain better control of their supply chains, which improves resource allocation efficiency and ultimately enhances firms' financial performance.

Financial synergy: Copeland (1991) pointed out that financial synergy can often be achieved by obtaining more favorable financing terms after M&A and reducing a firm's cost of capital. Koller (2005) further elucidated the deeper impact of financial synergy, arguing that sound financial integration can help firms maintain financial resilience in the face of market volatility, thereby improving overall financial performance. Peterson's (2016) study shows that M&A can reduce the cost of capital

and enhance financial stability by integrating capital structure and optimizing financing channels. He points out that financial synergy can help firms gain stronger capital resilience especially in times of economic volatility.

Managerial synergy: Harris (1994) emphasized that the sharing of management experience can achieve process improvement and enhance decision-making efficiency at different levels of the enterprise, which can directly affect the profitability of the company, while Lawrence (1999) mentioned that managerial synergy are usually maximized in heterogeneous mergers and acquisitions because the differences in the management modes of the two parties can be effectively integrated to bring new management perspectives to the enterprise. bringing new management perspectives and operation modes to the firms, thus enhancing the overall performance of the firms. Carlson (2017) emphasized that managerial synergy is particularly evident in technology-driven firms' M&As. Through the integration of talent and management experience after M&A, firms are able to respond more flexibly to market changes and improve internal operational efficiency.

2.3 M&A

The core principle of M&A activity is that, through equal negotiations between two parties, one company can gain control of the other. "Mergers and acquisitions" usually refer to the merger of two companies into a new company, where one company has a larger market share and the other has a relatively smaller market share. Acquisition is an important business tool that can be used in various forms, such as equity transfer, financial input, financial statements, etc., to achieve a change in control, assets, and business management capabilities of the acquired company, unlike mergers. There is a close correlation between acquisitions and mergers, but there are also obvious differences, so the academic community collectively refer to them as mergers and acquisitions (The Chinese Institute of Certified Public Accountants, 2024).

Mergers and acquisitions (M&A) can be subdivided into various types from multiple perspectives. Based on the industry attributes of the merging parties, they can be categorized into three forms: horizontal M&A, vertical M&A, and diversity M&A. Any enterprise M&A behavior occurring between the same industry or industries can be called horizontal M&A, which is manifested in the elimination of duplicated facilities, the provision of series of products or services, the realization of complementary advantages, and the expansion of market share. Vertical M&A refers to the M&A behavior between enterprises that are more closely related in terms of operation to achieve the purpose of extending their business from the relationship

between suppliers and demanders. Divided into forward mergers and acquisitions and backward mergers and acquisitions, forward mergers and acquisitions refers to the mergers and acquisitions occurring along the direction of the flow of product entities; backward mergers and acquisitions refers to the mergers and acquisitions occurring along the reverse of the flow of product entities. Diversification M&A is a merger and acquisition between enterprises in different industries that are not closely related in operation(The Chinese Institute of Certified Public Accountants, 2024).

According to the attitude of the acquiree, mergers and acquisitions can be categorized into friendly and hostile types. Friendly mergers and acquisitions refer to the type of mergers and acquisitions in which the merger and acquisition parties determine the terms of the merger and acquisition through friendly negotiation, and realize the transfer of property rights under the condition that both parties are basically in agreement. Hostile mergers and acquisitions refer to the type of mergers and acquisitions in which the acquirer disregards the wishes of the acquired party and adopts coercive measures to force the acquisition of the other party's enterprise after the friendly negotiation has been rejected(The Chinese Institute of Certified Public Accountants, 2024).

According to the roles of the merging and acquiring parties, they can be categorized into two types: industrial capital mergers and acquisitions (ICA) and financial capital mergers and acquisitions (FCMA). Industrial capital M&A, generally conducted by non-financial enterprises, that is, non-financial enterprises as the M&A party, through certain procedures and channels to obtain the ownership of all or part of the assets of the target enterprise M&A behavior. Financial capital mergers and acquisitions are generally carried out by investment banks or non-bank financial institutions (such as financial investment enterprises, private equity funds, venture capital funds, etc.) (The Chinese Institute of Certified Public Accountants, 2024).

Acquisitions can be categorized into two forms, leveraged and non-leveraged, depending on the source of funding. When an acquirer carries out an acquisition, it is called a leveraged acquisition if its main source of funding is external indebtedness, i.e., it is done with the support of bank loans or financial market borrowings. Thus, when the acquirer's source of funds is its own funds, the acquisition is called a non-leveraged acquisition(The Chinese Institute of Certified Public Accountants, 2024).

Zhang (2020) clarified the motivation of Internet enterprises to carry out mergers and acquisitions by studying the case of Alibaba's merger and acquisition of UC, and his view is that Internet enterprises carry out mergers and acquisitions in order to occupy a more favourable market position and seize market share to cope with the

increasingly competitive environment, and the results of the analysis show that one of the important ways for enterprises to avoid risks is to carry out a diversified strategic layout. Wu et al. (2018) calculated the data of M&A transaction activities occurring in more than 200 listed companies in the manufacturing industry in China, and their results found that M&A behaviors can optimize corporate resources and can be recombined and paired in order to promote the improvement of the efficiency of corporate production and operation and technological innovation. The effect of M&A on changes in corporate value is also significant. When the internal expansion of the enterprise cannot be satisfied, it will seek external ways to solve this dilemma. Yang (2020), through the 2016-2019 mergers and acquisitions and restructuring on the audit, found that listed companies to implement mergers and acquisitions motivated by the acquisition of competitors' market share, increase market share, a short period of time to obtain a larger income; through mergers and acquisitions to implement the control of the external enterprises, while enabling their own to reach the size of the industry limits to seize the market share: to control the risk, the implementation of diversification strategy of the three considerations. Shi (2018) concluded through empirical analysis that: in the merger and acquisition activities of technology-based enterprises in China, the role of industrial integration is almost negligible, and its influence is relatively weak. However, it has an important role in promoting the long-term development of technology-based enterprises. Zhang (2021) took 2013-2018 KU Intelligence continuous mergers and acquisitions as the research object, studied the motivation of corporate mergers and acquisitions, analyzed that mergers and acquisitions can improve its operating conditions, seek new profit growth, master technology, and enhance the competitiveness of the enterprise, and at the same time, this merger and acquisition not only expands the scale and improves the market share, but also for the purpose of executives for the purpose of obtaining benefits. Yuan (2021) took Stranger's merger and acquisition of Tan Tan as the research object and analyzed that Stranger's merger and acquisition of Tan Tan meets the strategic needs, can expand the market scale, stabilize the market position, balance the gender ratio of the users, improve the quality of the product, and help the construction of good social networking. Sun (2020) from the perspective of information economics theory, concluded that in mergers and acquisitions activities, there is a positive impact between corporate social responsibility and merger and acquisition performance, while the regional market environment will weaken this positive impact, and this weakening effect is more significant for stateowned enterprises. Tang (2021) analyzed the performance data of China's listed companies after mergers and acquisitions and found that the stronger the management's

ability, the more likely it is to lead the management to use radical decisions in the implementation of strategy, which is a great threat to the development of the enterprise, thus negatively affecting the long-term performance. Gao et al. (2022) investigated the impact of cultural differences on performance through a multiple regression model, and the results showed that cultural differences may have a significant impact on M&A performance. Therefore, when engaging in cross-border M&A, M&A parties should have a comprehensive understanding of the cultural background of the rival company and use it as an important basis for decision-making. Shen (1997) found through empirical research that firms engage in M&A mainly to realize complementary advantages and jointly develop new products in order to reduce production and operation costs. By analyzing the case of merger between Huiyuan Juice and Coca-Cola, Li et al. (2011) pointed out that M&A is based on the theory of efficiency, and firms engage in M&A in order to obtain synergistic effects to reduce production and operation costs.

In general, foreign scholars have explored the causes of M&A earlier and have developed a more complete theoretical system compared to Chinese M&A activities. These studies have focused on the purposes, motives, and various other aspects of M&A and have laid a solid foundation for today's research. They argue that the purpose of M&A is to improve production efficiency, enhance competitive advantage and expand market influence.

2.3.1 M&A Process

(1) Preparation Stage

Before starting an acquisition, acquirers need to clarify their development strategy and ensure that the target they choose is an excellent and reliable company. To this end, they need to conduct a comprehensive and in-depth research on the acquired company's existing situation, market competitiveness, business model, etc., and, taking into account publicly available information, formulate a payment plan and acquisition terms that are in line with their development strategy, thus enabling the company to achieve its objectives quickly and effectively. ABS project is an important strategic grip for Jinfa Technology in the upstream synthetic materials due to the huge market demand. urgently needs to expand its production capacity to strengthen its leading position in the field of chemical raw materials. (Wang, 2020)

(2) Execution Stage

Baolai Enterprise Group Co., Ltd. and Panjin Xinhai Construction Engineering Co., Ltd. jointly own 100% of the registered capital of Baolai New Materials, totaling

RMB 3.210 billion. Baolai Group originally subscribed to a capital contribution of up to RMB 2.91 billion, but has now actually paid RMB 1.5 billion. (Liu Xinyu, 2022)

Table 2.1 Original Shareholders' Capital Contributions & Investment Proportion

Shareholder	Capital contributions(billions)	Investment proportion
Baolai Group	29.10	90.65%
Panjin Xinhai	3.00	9.35%
Total	32.1	100.00%

Source: East Money

(3) Completion Stage

At the fifth interim meeting of the seventh Board of Directors, the Baolai Group proposed a major decision to sell 1.410 billion yuan of the registered capital of Baolai New Materials (43.9252% of the total) to Jinfa Technology as a means of making up for the shortfall of the Baolai Group in this area. The Company has approved this right to subscribe for the capital contribution and has undertaken to fund Baolai New Materials in accordance with relevant laws and regulations. Panjin Xinhai waived its right of first refusal. After negotiations between the two parties, Jinfa Technology finally decided to provide financial support of RMB 470 million to the Baolai Group and Panjin Xinhai, thus canceling the original investment preference. After the capital increase, by increasing the investment, the registered capital of Baolai New Materials rose significantly from the initial RMB 3.210 billion to RMB 3.680 billion, while Jinfa Technology occupied 51.09% of the shares (Shi, 2021), as shown in Table 2.2 below:

Table 2.2 Shareholders' Capital Contributions & Investment Proportion

Shareholder	Capital contributions(billions)	Investment proportion
Jinfa Technology	18.8	51.09%
Baolai Group	15.00	40.76%
Panjin Xinhai	3.00	8.15%
Total	36.8	100.00%

Source: East Money

On July 25, 2021, Jinfa Technology released a landmark investment announcement, announcing that it will control 51.09% of the shares of Liaoning Baolai New Material Co. in the form of acquisition and capital increase, which signifies that Jinfa Technology has successfully grasped the opportunity of future development and

has strong market competitiveness. In addition, the implementation of the project will help improve the quality of the company's products and bring considerable profits, which in turn will provide more opportunities for the company's development in the upstream raw material market. (Gao, 2021)

2.3.2 M&A Performance

Since the rise of mergers and acquisitions, M&A performance has become a hot research topic in academia. Since at the theoretical level, the effect of M&A on corporate performance may be positive or negative. The specific views are as follows:

a . Mergers and Acquisitions Improve Firm Performance

Zhao (2013) found that the fundamental driving force for firms to create value lies in the fact that firms engage in mergers and acquisitions (M&A) activities, which leads to the conclusion that M&A behaviour has a positive impact on increasing firm value. Xu (2014) argued that the degree of industrial diversification of enterprises will improve the performance of cross-border M&A of reciprocal capital; on the contrary, the degree of geographic diversification of enterprises will weaken the performance of enterprises; vertical integration of enterprises has no moderating effect on the relationship between the ownership structure and M&A performance. Zhang et al. (2016) used the data related to more than 200 technological mergers and acquisitions in China from 2006-2015 to study the impact of horizontal, vertical and mixed mergers and acquisitions on corporate performance, and the study showed that it is horizontal mergers and acquisitions that will reduce corporate mergers and acquisitions performance, it is vertical mergers and acquisitions that will improve corporate mergers and acquisitions performance, and the impact of mixed mergers and acquisitions on corporate mergers and acquisitions performance is not obvious. Xu et al. (2019) selected domestic A-share listed companies that had mergers and acquisitions in the five years from 2010 to 2014 as a sample and examined their data from 2009 to 2017, and found that the higher the proportion of executive shareholding, the higher the performance of listed companies in mergers and acquisitions, and the lower the probability of the occurrence of the opportunistic merger and acquisition behaviors of the executives, which will alleviate the conflict between the executives and the shareholders. Wang (2019) used multivariate linear regression to analyze the relationship between analyst attention and corporate performance of listed companies during the five-year period from 2011 to 2015, and concluded that the higher the analyst attention, the more the corporate merger and acquisition performance improves under the condition of higher capital concentration. Yu et al. (2019) utilized the framework of integration of resource-based pipe and institutional-based pipe to study cross-border

M&A cases of Chinese listed companies as a sample over a seven-year period, and found that in cross-border M&A, when the subject company is a strategic emerging company, the company's M&A performance can be significantly improved. Cheng et al. (2019) selected the data of listed companies' M&A during the past 13 years as a sample from the perspective of corporate organizational capital, and found that the frequency of corporate M&A behavior was inversely related to organizational capital, and when the company's organizational capital was low, the ability of resource integration was reduced, and the performance of corporate M&A was also reduced. Shao et al. (2019) selected mergers and acquisitions events of listed companies in the culture industry from 2011 to 2015 as a research sample, and concluded that under financing constraints, companies often choose to make mergers and acquisitions in the form of share-based payment and that mergers and acquisitions activities will improve corporate performance.

b. Mergers and Acquisitions Reduce Firm Performance

Lu (2012) selected some of the Shanghai and Shenzhen listed companies' mergers and acquisitions that occurred in the same year as research samples, and used the economic value added analysis model to analyze the trend of each company's mergers and acquisitions by calculating the economic value added in the four years before and after the mergers and acquisitions, and analyzed that most of the companies did not improve the performance of the mergers and acquisitions in the two years after the mergers and acquisitions, and on the contrary, mergers and acquisitions were detrimental to the shareholders' rights and interests. Chen et al. (2016) took the return on total assets as a measure, select more than 100 listed companies mergers and acquisitions as a research sample, respectively calculate the return on total assets in the year before mergers and acquisitions and the value of one year after the completion of mergers and acquisitions, then compare the two, and found that mergers and acquisitions did not improve the overall performance of the company, but instead, it is detrimental to the value of the enterprise. Huang (2018) selected the mergers and acquisitions events of non-state listed companies in the five years from 2010 to 2014 as a research sample, and after analysing, it was found that there is also an important relationship between corporate mergers and acquisitions performance and political relevance, and when the internal control of the company fails to work, it will lead to a decline in the performance of the company's mergers and acquisitions, and in the second year after mergers and acquisitions, this effect will be more obvious. Chen et al. (2018) chose some listed companies as research samples, calculated and analyzed the changes in the economic value added and merger and acquisition performance of each company

from 2011 to 2016. After analyzing, it was found that the economic value added of each company in the two years after mergers and acquisitions did not improve significantly, and there was even a decline, which indicated that in the two years after mergers and acquisitions, the performance of the company was not improved until the third year. Zhou et al. (2019) selected the A-share market M&A events between 2010 and 2016 as a research sample to study the relationship between executives, investors and M&A performance, and found that executive power is inversely proportional to the performance of corporate M&A, and investor participation will even if the executive rights and thus enhance the merger performance of the merging parties.

Regarding the impact of corporate performance, relatively speaking, this study analyses the long and short-term performance of M&A with Jinfa in the new chemical materials industry as an example, including the long-term impact of M&A on the enterprise's core financial indexes, and also including the M&A on the company's capital gains, which is conducive to the comprehensive evaluation of the performance of mergers and acquisitions.

2.4 Conceptual Framework

This study focuses on the impact of mergers and acquisitions (M&A) of new chemical materials companies from the perspective of financial performance, and it analyzes the case of Jinfa Technology's merger and acquisition of Baolai on the basis of the theory of synergistic effect. The conceptual framework of the study is showed in Figure 2.1.

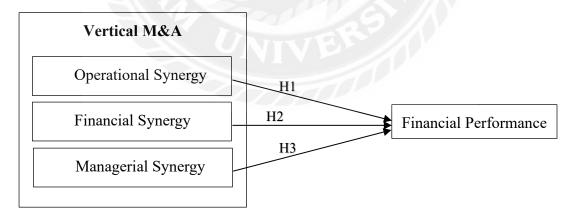


Figure 2.1 Conceptual Framework

Chapter 3 Research Methodology

3.1 Research Design

This study adopted the quantitative research method to study the factors affecting the financial performance of Jinfa Technology. Based on the theory of synergistic effect, it is determined that the important factors affecting the financial performance include operational synergy, financial synergy and managerial synergy. A questionnaire was designed based on relevant research and theories.

3.2 Population and Sample

This study focused on the impact of mergers and acquisitions on the financial performance of Jinfa Technology. The population of this study was the employees of Jinfa Technology and the survey period was from November 1, 2023 to June 30, 2024 in order to facilitate data statistics and collection. The sample ensured is fully representative of the whole company in order to obtain more representative and reliable survey results. According to Jinfa, there were 10,629 employees. The sample size was set at 257 people, and a total of 240 samples were actually received. Therefore, the random and stratified sampling was used.

Stratified sampling: The research population was first divided into several layers according to their main characteristics (gender, position, years of experience, etc.), and then random sampling was conducted in each layer to form the sample of the survey.

3.3 Hypothesis

This study provided a preliminary basis for the confirmed M&A issues and phenomena and established the following assumptions:

H1: Operating synergy has a significant positive effect on the financial performance of Jinfa Technology.

H2: Financial synergy has a significant positive effect on the financial performance of Jinfa Technology.

H3: Managerial synergy has a significant positive effect on the financial performance of Jinfa Technology.

3.4 Research Instrument

This study used a structured questionnaire as the main data collection tool, aiming to systematically assess the impact of mergers and acquisitions (M&A) on the financial performance of Jinfa Technology Co. The questionnaire design was based on relevant

theories and literature review to ensure that key dimensions were covered, including operational synergy, financial synergy, and managerial synergy. Each indicator was assessed using a five-point scale (1-strongly disagree, 5-strongly agree) to quantify employees' subjective feelings and opinions.

The questionnaire was structured into five sections:

Section 1: Demographic information

The personal information section focuses on the employee's position, gender, and work experience, which are intended to provide a basic background and a basis for subsequent research.

Section 2: Operational synergy

Assess participants' perceptions of the operational synergy of the M&A and their impact on financial performance. Five aspects are analyzed: economies of scale, cost sharing, market share, productivity, market expansion and brand enhancement. See Table 3.1.

Section 3: Financial synergy

Assesses participants' perceptions of the financial synergy of the M&A and their impact on the company's performance. Five aspects are analyzed: financing ability, cash flow management, tax optimization, capital structure optimization and return on investment enhancement. See Table 3.1.

Section 4: Managerial synergy

Assesses participants' views on managerial synergy of M&A and their impact on company performance. Five aspects are analyzed: diversification and management efficiency, technology integration and managerial synergy, supply chain optimization, organizational structure, and organizational culture integration. See Table 3.1.

Section 5: Financial performance

Through participants' subjective evaluation of the company's financial performance, to understand changes in operational efficiency, cost control effectiveness, gross margin improvement, financial stability and shareholder return. See Table 3.1.

The design of the questionnaire also follows the following principles:

First, scientific: the questions are set based on theoretical support and literature research to ensure that the variables of concern can be measured effectively.

Second, simplicity: the questionnaire is concise and avoids complex terminology to ensure that all employees can understand and fill in accurately.

Third, anonymity: the anonymity of the participants is emphasized and authentic feedback is encouraged to enhance the validity and reliability of the data.

Table 3.1 Questionnaire Design

Dimension	Question Question			
Difficusion	,			
	1. After the merger and acquisition, Jinfa's productivity in key			
	products such as ABS resin expanded significantly			
	2. After the merger, Jinfa successfully shared the fixed costs of Polaris			
	New Materials, reducing overall operating costs			
	3.Mergers and acquisitions help Jinfa increase its market share			
Operational	significantly in markets such as ABS resins			
Synergy	4. After the merger and acquisition, Jinfa Technology has improved			
	the production efficiency of key products such as ABS resin through			
	resource integration and production process optimization.			
	5. The M&A has helped Jinfa Technology to further expand in			
	markets such as ABS resin and strengthen its brand influence and			
	market position.			
	1.After the merger and acquisition, Jinfa Technology's ability to raise			
	capital has been significantly enhanced			
	2.M&A reduces the volatility of Jinfa's cash flow			
0	3.M&A brings tax advantages to Jinfa (e.g. tax consolidation, loss credits, etc.)			
Financial				
Synergy	4.After the merger and acquisition, the capital structure of Jinfa			
	Technology was optimized, reducing the cost of capital and			
7	improving financial stability.			
	5.M&A has brought higher ROI for Jinfa through effective capital			
	allocation and successful project implementation			
	1.M&A has helped Jinfa realize the expansion of its business scope			
	and improve its overall management efficiency			
Managerial	2. After the merger and acquisition, Jinfa Technology successfully			
Synergy	integrated the technical resources of Polaris New Materials and			
	promoted the synergy of internal management			
	3. The M&A has optimized Jinfa Technology's supply chain,			
	improved the stability of raw material supply, and streamlined			
Managerial	management processes.			
Synergy	4. After the merger and acquisition, the organizational and			
	management structure of Jinfa Technology was able to adapt to the			
	new business needs and scale, which facilitated smooth management			
	, , <u>, , , , , , , , , , , , , , , , , </u>			

Dimension	Question			
	5. After the merger and acquisition, Jinfa Technology and Baolai New			
	Materials have achieved effective integration in organizational			
	culture, promoting employees' sense of belonging and team cohesion			
	1.Jinfa's acquisition of Polaris resulted in a significant increase in its			
	net profit margin compared to the pre-acquisition period			
	2.M&A activities have positively impacted Jinfa's cash flow position,			
	making it stronger and more stable			
	3.Jinfa's acquisition of Polaris provided shareholders with higher			
Financial	dividend payments or share price appreciation, enhancing			
Performance	shareholder returns			
	4.The M&A has enabled Jinfa to achieve significant results in cost			
	control while improving overall business efficiency			
	5.The M&A has strengthened Jinfa's capabilities in financial			
	management and risk control, enabling it to better cope with market			
	uncertainties			

3.5 Reliability and Validity Analysis of the Scale

3.5.1 Reliability analysis

Reliability analysis is to measure the reliability of the questionnaire. In this survey, SPSS26.0 tool "Reliability analysis" was used to check the internal consistency of the questionnaire data and to determine whether the data are stable and reliable. Cronibach's A1pha coefficient is generally used as the reliability value to measure the reliability of the data. The higher the reliability coefficient, the more consistent, stable and reliable the results of the test are. In general research, if the a coefficient of the measurement dimension is higher than 0.8, it means that the internal consistency of the measurement dimension variable is high: if the a coefficient of the measurement dimension is between 0.7-0.8, it means that the internal consistency of the measurement dimension variable is good: if the a coefficient of the measurement dimension is between 0.6-0.7, it means that the internal consistency of the measurement dimension variable is acceptable. The results of the reliability test of this study are shown in Table 3.2.

Table 3.2 Reliability Analysis

Name	Cronbach. α coefficient	Number of items	
Operational Synergy	0.840	5	
Financial Synergy	0.874	5	
Managerial Synergy	0.854	5	
Financial Performance	0.855	6	
Total	0.948	21	

3.5.2 Validity analysis

Validity test, i.e., a measure of the validity of a questionnaire. In general research, the validity of the questionnaire is to test whether the test data of the questionnaire can actually reflect to the purpose of the research, i.e., to verify whether the questionnaire is accurate and valid for the research. In this study, the validity of the scales in the questionnaire is tested using the KM0 coefficient. According to the test results in the table above, it can be seen that the KM0 value is 0.929, which is greater than 0.9, and Bartlett's test of significance p<0.05, which indicates that the questionnaire validity is good.

Table 3.3 Validity Analysis

KMO and Bartlett spherical test			
Number of KMO samplin	g	0.929	
Bartlett spherical test	Approximate chi square	3264.052	
	free degree	210	
	conspicuousness	0.000	

3.6 Data Collection

This study conducted a questionnaire survey with relevant financial staff and leaders of Jinfa Technology Co. Ltd. through an online questionnaire platform. From November 1, 2023 to June 30, 2024, 257 questionnaires were distributed to several departments to ensure the comprehensiveness and diversity of the data, and 240 valid questionnaires were finally recovered to ensure the adequacy and reliability of the data, and the questionnaire's twrnover rate was 93.4%.

3.7 Data Analysis

After data collection was completed, the questionnaire data were analyzed using SPSS for descriptive statistics, reliability analysis, validity analysis, correlation analysis, and multiple regression analysis. The results of these analyses help us understand the relationship between online learning engagement and various influencing factors.

Chapter 4 Findings

4.1 Demographic Characteristics of Respondents

Table 4.1 Demographic Characteristics

Item	Options	Frequency	Percent%
ItCIII	•	Trequency	
	High-level administrators	68	28.3%
Position	Middle Level Administrators	79	32.9%
	Grassroots Staff	93	38.8%
Gender	Male	102	42.5%
	Femal0065	138	57.5%
	1≤	33	13.8%
Work	1-3	44	22.9%
experience	3-5	75	31.3%
	5>	77	32.1%

Data collection for this study involved respondents of different positions, genders, and years of working experience to ensure the breadth and depth of the findings. In terms of position distribution, the respondents who participated in the survey mainly consisted of top-level administrators (68 or 28.3%), middle-level administrators (79 or 32.9%), and junior employees (93 or 38.8%). This distribution reflects the perceptions and experiences of employees at different levels within the company on the research questions and helps to understand the impact of M&A on company operations from multiple perspectives.

In terms of gender, female employees comprised the majority of the respondents in the survey (138 or 57.5%), while male employees were 102 or 42.5%. Although the gender ratio is not completely balanced, this distribution still reflects to some extent the characteristics of Jinfa in terms of the gender composition of its employees and provides a certain gender perspective for the study.

Regarding the years of working experience, the respondents' working experience covers all stages from new employees to senior employees. Specifically, there are 33 employees with less than 1 year of working experience, accounting for 13.8%; 44 employees with 1 to 3 years of working experience, accounting for 22.9%; 75 employees with 3 to 5 years of working experience, accounting for the highest percentage of 31.3%; and 77 employees with more than 5 years of working experience, accounting for 32.1%. This distribution of years of work experience helps us to understand the differences in the perceptions of employees with different work experience on M&A events and their subsequent impacts, so that this study can more

comprehensively assess the far-reaching effects of M&A on company operations and employee perceptions.

In summary, the analysis of demographic variables in this study demonstrates the diversity of respondents in terms of position, gender, and years of work experience, which provides a solid foundation for the interpretation and discussion of subsequent findings. By considering these demographic characteristics together, this study was able to explore in greater depth the specific impacts of M&A on different levels and dimensions of the firm, and how these impacts interact with employees' individual characteristics and experiences.

4.2 Description Statistics of Variables

4.2.1 Operational Synergy

Table 4.2 Operational Synergy

Items	Mean Statistic	Std. Deviation Statistic
After the merger and acquisition, Jinfa's productivity in key products such as ABS resin expanded significantly	3.64	0.96
After the merger, Jinfa successfully shared the fixed costs of Polaris New Materials, reducing overall operating costs	3.49	0.94
Mergers and acquisitions help Jinfa increase its market share significantly in markets such as ABS resins	3.90	0.88
After the merger and acquisition, Jinfa Technology has improved the production efficiency of key products such as ABS resin through resource integration and production process optimization.	3.82	0.91
The M&A has helped Jinfa Technology to further expand in markets such as ABS resin and strengthen its brand influence and market position.	3.84	0.92

For the assessment of operational synergy, Table 4.2 provides the mean and standard deviation of the key question items, which provide a quantitative basis for understanding the specific impacts of the M&A on Jinfa at the operational level.

First, the average score of 3.64 (out of 5) for the question "After the M&A, Jinfa Tech's productivity in key products such as ABS resin has expanded significantly" shows that most respondents believe that the M&A has indeed contributed to a significant increase in Jinfa Tech's productivity in key products. Secondly, the average

score of 3.49 for the question "After the M&A, Jinfa Technology successfully shared the fixed costs of Polaris New Materials and reduced overall operating costs" is slightly lower than the score for productivity expansion, but still indicates that respondents generally believe that the M&A has achieved positive results in terms of cost-sharing and reducing overall operating costs. In terms of market share, the average score of 3.90 for "M&A has helped Jinfa Technology significantly increase its share of the market for ABS resins and other markets" is the highest among the four questions, indicating that respondents generally believe that M&A has made a significant contribution to Jinfa Technology's market share growth. Regarding the improvement of production efficiency, the average score of "After the M&A, Jinfa Technology has improved the production efficiency of key products such as ABS resin through resource integration and production process optimization" is 3.82, which is close to the score of the increase in market share, showing that the M&A has also achieved significant results in improving production efficiency. Finally, the average score of 3.84 for "M&A has helped Jinfa Technology to further expand in markets such as ABS resin and strengthened its brand influence and market position" is slightly higher than that of the score for the increase in production efficiency, indicating that M&A has not only helped Jinfa Technology to achieve growth in market share, but also facilitated the further expansion of its markets and the strengthening of its brand influence. influence enhancement. To summarize, the descriptive statistics in Table 4.2 show that the M&A activities of Jinfa Technology have achieved significant results in terms of operational synergy, which are reflected in the expansion of productivity, cost reduction, increase in market share, improvement in production efficiency, and market expansion and brand enhancement.

4.2.2 Financial Synergy

Table 4.3 Financial Synergy

Items	Mean Statistic	Std.
		Deviation
		Statistic
After the merger and acquisition, Jinfa Technology's ability to	3.49	0.93
raise capital has been significantly enhanced	3.49	0.73
M&A reduces the volatility of Jinfa's cash flow	3.66	0.94
M&A brings tax advantages to Jinfa (e.g. tax consolidation,	3.65	0.95
loss credits, etc.)	3.03	0.33

Items	Mean Statistic	Std. Deviation Statistic
After the merger and acquisition, the capital structure of Jinfa		
Technology was optimized, reducing the cost of capital and	3.67	0.94
improving financial stability.		
M&A has brought higher ROI for Jinfa through effective	3.79	0.90
capital allocation and successful project implementation		

In the descriptive statistics of financial synergy, Table 4.3 shows the specific results achieved by Jinfa Technology at the financial level after the M&A. The mean score of "After the M&A, Jinfa Technology's financing ability has been significantly enhanced" is 3.49, indicating that the majority of respondents believe that the M&A activities have had a positive impact on Jinfa Technology's financing ability. The average score of 3.66 for "M&A has reduced the volatility of Jinfa Technology's cash flow" is the higher score among the four questions, showing the significant role of M&A in stabilizing the company's cash flow. In terms of taxation, the average score for "M&A has brought tax advantages (such as consolidated tax payments, loss deductions, etc.) to Jinfa Technology" was 3.65, which is similar to the score for reduced cash flow volatility, indicating that respondents generally believe that M&A has provided Jinfa Technology with favorable conditions for tax planning. The average score of 3.67 for "After the M&A, Jinfa Technology's capital structure has been optimized, the cost of capital has been reduced and financial stability has been improved" is slightly higher than the score for tax advantages, indicating that the M&A has played an important role in optimizing the company's capital structure, reducing the cost of capital and improving financial stability. The average score of 3.79 for "M&A has brought higher ROI to Jinfa Technology through effective allocation of capital and successful implementation of projects" is the highest among the four questions, indicating that respondents generally believe that M&A activities have significantly improved Jinfa Technology's ROI.

In summary, the descriptive statistics in Table 4.3 show that Jinfa Technology's M&A activities have achieved significant results in terms of financial synergy. These effects are not only reflected in the enhancement of financing ability, the reduction of cash flow volatility and the acquisition of tax advantages, but also in the optimization of capital structure and the improvement of ROI.

4.2.3 Managerial Synergy

Table 4.4 Managerial Synergy

Items	Mean Statistic	Std.
		Deviation
		Statistic
M&A has helped Jinfa realize the expansion of its business	3.57	0.89
scope and improve its overall management efficiency		
After the merger and acquisition, Jinfa Technology successfully integrated the technical resources of Polaris New	3.69	0.95
Materials and promoted the synergy of internal management		
The M&A has optimized Jinfa Technology's supply chain, improved the stability of raw material supply, and streamlined	3.73	0.88
management processes.		
After the merger and acquisition, the organizational and management structure of Jinfa Technology was able to adapt to the new business needs and scale, which facilitated smooth management	3.65	0.93
After the merger and acquisition, Jinfa Technology and Baolai		
New Materials have achieved effective integration in organizational culture, promoting employees' sense of	3.75	0.96
belonging and team cohesion		

In exploring managerial synergy, the data in Table 4.4 reveals the positive results achieved at the management level after the M&A of Jinfa Technology.

First, the average score of 3.57 for "M&A has helped Jinfa Technology realize the expansion of its business scope and improve overall management efficiency" indicates that the majority of respondents believe that M&A has positively impacted Jinfa Technology's business scope and management efficiency.

The average score of "After the M&A, Jinfa Technology successfully integrated the technological resources of Polaris New Materials and promoted the synergy of internal management" is 3.69, which is slightly higher than the scores of the expansion of the business scope and the improvement of management efficiency. This indicates that respondents generally believe that M&A has achieved significant results in the integration of technical resources and managerial synergy. In terms of supply chain optimization, the average score of "M&A has optimized Jinfa Technology's supply chain, improved the stability of raw material supply, and simplified the management process" is 3.73, which is the highest score among the four questions. This indicates that respondents highly recognize the contribution of M&A in supply chain

optimization and streamlining of management processes. The average score of 3.65 for "After the M&A, the organizational and management structure of Jinfa Technology was able to adapt to the new business needs and scale, and facilitated smooth management" indicates that respondents believe that the company's organizational and management structure is able to flexibly respond to new business challenges after the M&A. Finally, the average score of 3.75 for "After the M&A, Jinfa Technology and Polaris New Materials have achieved effective integration in organizational culture, which promotes employees' sense of belonging and team cohesion," is second only to the scores of Supply Chain Optimization and Streamlining of Management Processes. This indicates that respondents believe that M&A has achieved significant results in promoting organizational culture integration and employee sense of belonging. The standard deviation of 0.96 is relatively high, which may reflect the different experiences and feelings of different employees or departments in the process of cultural integration.

To summarize, the descriptive statistics in Table 4.4 show that the M&A activities of Jinfa Technology have achieved multiple successes in managing synergy. These successes include the expansion of business scope and the improvement of management efficiency, the effective integration of technological resources and the enhancement of managerial synergy, the optimization of the supply chain and the simplification of management processes, the improvement of the adaptability of the organizational and management structures, and the effective integration of the organizational culture and the enhancement of the sense of belonging of employees.

4.2.4 Financial Performance

Table 4.5 Financial Performance

Items	Mean Statistic	Std. Deviation Statistic
Jinfa's acquisition of Polaris resulted in a significant increase		
in its net profit margin compared to the pre-acquisition	3.55	0.94
period		
M&A activities have positively impacted Jinfa's cash flow	3.65	0.92
position, making it stronger and more stable		
Jinfa's acquisition of Polaris provided shareholders with		
higher dividend payments or share price appreciation,	3.74	0.92
enhancing shareholder returns		
The M&A has enabled Jinfa to achieve significant results in	3.70	0.90
cost control while improving overall business efficiency		

Items	Mean Statistic	Std. Deviation Statistic
The M&A has strengthened Jinfa's capabilities in financial management and risk control, enabling it to better cope with market uncertainties	3.69	0.90
Taken together, the overall financial performance of Jinfa after its acquisition of Polaris has significantly improved compared to its pre-acquisition performance	3.73	1.00

First, the mean score of 3.55 for "Jinfa Technology's net profit margin improved significantly after its acquisition of Baolai compared to the pre-acquisition period" indicates that the majority of respondents believe that the M&A had a positive impact on Jinfa Technology's net profit margin. The average score of 3.65 for "M&A activities have had a positive impact on Jinfa Technology's cash flow position, making it stronger and more stable" is slightly higher than the score for net profit margin improvement. This indicates that respondents generally believe that M&A activities have significantly improved Jinfa Technology's cash flow position, making it more abundant and stable. The average score of 3.74 for "The acquisition of Baolai by Jinfa Technology has provided shareholders with higher dividend payments or share price appreciation and enhanced shareholder returns," is the highest score among the four questions. This indicates that respondents highly recognize the contribution of M&A in enhancing shareholder returns. The average score for "M&A has enabled Gold Fortune to achieve significant results in cost control and improve overall business efficiency" is 3.70, which is close to the score for enhanced shareholder returns. This indicates that respondents believe that the M&A has achieved significant results in terms of cost control and business efficiency enhancement. The average score of 3.69 for "M&A has strengthened Kimberly-Clark's ability in financial management and risk control, enabling it to better cope with market uncertainties" is slightly lower than the score for cost control and business efficiency enhancement. However, this result still indicates that respondents generally believe that M&A has played a positive role in improving the company's financial management and risk control capabilities. Finally, the average score of 3.73 for "Considering all things considered, the overall financial performance of Jinfa Technology has improved significantly after the acquisition of Polaris compared to the pre-acquisition period," is the higher score among the five questions. This indicates that respondents generally believe that the M&A has had a positive impact on the overall financial performance of Jinfa Technology. The standard

deviation of 1.00 is relatively high and may reflect the different feelings of different respondents about the degree of improvement in overall financial performance. Nevertheless, this result still supports the effectiveness of M&A in enhancing the financial performance of companies.

To summarize, the descriptive statistics in Table 4.5 show that Jinfa has achieved significant results in terms of financial performance after its acquisition of Polaris. These results include improved net profit margins, improved cash flow position, enhanced shareholder returns, improved cost control and business efficiency, and improved financial management and risk control capabilities.

4.3 Results of the Study

4.3.1 Correlation Analysis

Correlation analysis is often used in the case of two or more variables with certain correlation to measure the closeness of the relationship between the variables, which is mostly expressed by the Pearson correlation coefficient. The value of the Pearson correlation coefficient is between -1 and 1, and the larger the positive value or the smaller the negative value, it means that there is a stronger correlation between the two variables; and the closer the value is to 0, it means that there is a weaker correlation between the variables. By analyzing the correlation of the 240 questionnaires collected, the results are shown in Table 4.6.

Table 4.6 Correlation Analysis Results

	Operational	Financial	Managerial	Financial
	Synergy	Synergy	Synergy	performance
Operational Synergy	1	TVEF		
Financial Synergy	0.703**	1		
Managerial Synergy	0.656**	0.618**	1	
Financial Performance	0.786**	0.758**	0.788**	1

After analyzing in-depth the data collected from 240 questionnaires, this study conducted a correlation analysis to explore the intrinsic links between operational synergy, financial synergy, managerial synergy, and financial performance. The results of the analysis show that there are significant and strong correlations between these variables, revealing to us the interplay of synergy in different aspects of corporate operations and their positive effects on overall financial performance.

First, a strong positive correlation is demonstrated between operational synergy and financial synergy (the correlation coefficient is 0.703, highly significant). This suggests that when enterprises achieve effective resource integration, market expansion

or business model innovation at the operational level, the operational synergy tends to be directly transformed into positive financial effects, such as increased revenues, reduced costs or improved profitability. This transformation mechanism reflects the close connection between business strategies and financial performance.

Second, managerial synergy shows significant positive correlations with both operational synergy and financial synergy (the correlation coefficients with both are 0.656 and 0.618, respectively, both highly significant). This illustrates the key role of management in promoting the overall synergy of the firm. Effective management can ensure the effective implementation of business strategies, while optimizing resource allocation and enhancing operational efficiency, thus further amplifying operational and financial synergy. In addition, managerial synergy also provides strong support for the sustainable development of the enterprise by boosting employee morale and enhancing teamwork.

Most notably, operational synergy, financial synergy, and managerial synergy all positively and positively affect financial performance (the correlation coefficients with financial performance are 0.786, 0.758, and 0.788, respectively, all highly significant). This finding emphasizes the centrality of synergy in enhancing the overall financial performance of firms. Whether through optimizing business strategies, improving financial position or enhancing management, firms are able to achieve significant enhancement in financial performance. This enhancement is not only reflected in the short-term profit growth, but also in the long-term market competitiveness, sustainable development ability and value creation ability of the enterprise.

In summary, the results of the correlation analysis reveal the close connection between operational synergy, financial synergy and managerial synergy and their positive impact on financial performance. This provides important insights for enterprises to formulate and implement strategies: in the pursuit of financial performance, enterprises need to focus on synergy and maximize the overall synergy through optimizing business strategies, improving financial conditions and enhancing management levels, so as to promote enterprises to achieve sustainable, healthy and rapid development.

4.3.2 Regression Analysis

Table 4.7 Regression Analysis Results

	Non-standardized		Standard		
	C	oefficient	coefficient	t	p
	В	Standard error	β		
(Constant)	0.103	0.124		0.834	0.405
Operational Synergy	0.319	0.045	0.325	7.019	0.000
Financial Synergy	0.263	0.041	0.282	6.348	0.000
Managerial Synergy	0.387	0.040	.400	9.556	0.000
R2			0.784		
Adjusted R2			0.781		
F		F:	=285.800, p<.001		

The results of the regression analysis reveal to us how operational synergy, financial synergy, and managerial synergy work together to affect the financial performance of the firm and provide us with insights into these influences. First, in terms of the overall model effect, the R^2 value of the regression model is 0.784, implying that these three synergies together explain nearly 80% of the variation in financial performance, which is a fairly high percentage, indicating that the model has strong predictive and explanatory power. The adjusted R^2 value also remains at a high level, further confirming the stability and reliability of the model. In addition, the high significance of the F-test (p < 0.001) also proves the statistical validity of the whole regression model.

Next, this study specifically analyzed the impact of each independent variable dimension. The unstandardized coefficient of operational synergy is 0.319 and its impact is highly statistically significant (p < 0.001), indicating that each unit increase in operational synergy has a significant positive push on financial performance. Financial synergy similarly shows a significant positive impact on financial performance (unstandardized coefficient of 0.263, p < 0.001), suggesting that financial optimization and synergy are also important factors in enhancing corporate financial performance. However, it is the significant impact of managerial synergy that is most striking. Its unstandardized coefficient of 0.387 is the highest among the three independent variables, and both its standardized coefficient (0.400) and t-value (9.556) indicate that its effect is the most significant. This result emphasizes the centrality of management in enhancing overall corporate synergy and financial performance. Effective management can optimize resource allocation, improve operational efficiency, and enhance teamwork, thus maximizing the potential of operational and financial synergy and driving firms to achieve better financial performance.

In summary, the results of regression analysis not only verify the positive impact of operational synergy, financial synergy and managerial synergy on financial performance, but also further reveal the dominant role of managerial synergy in these factors. Therefore, in the pursuit of financial performance, enterprises should pay special attention to the play of manage synergy, and maximize the overall synergies by continuously optimizing the management strategy and improving the management level, so as to promote the enterprises to achieve a more robust and sustainable development.



Chapter 5 Conclusion and Recommendation

5.1 Conclusion

This study was based on the theory of synergistic effect to study the factors affecting the financial performance of the merger and acquisition of Jinfa Technology, data collection was conducted by distributing questionnaires. A total of 257 questionnaires were distributed, 240 valid questionnaires were recovered, with a recovery rate of 93.4%. This study reached the following conclusions:

- (1) Operating synergy had a significant positive effect on financial performance. Operating synergy can help firms realize economies of scale and reduce unit production costs by expanding the scale of operations. When a firm expands its scale of production, fixed costs can be diluted across more products and marginal costs are subsequently reduced. This enables the firm to increase its profitability and become more competitive in the market. The realization of economies of scale helps the firm's cost control and thus improves overall financial performance. Cost sharing is achieved by integrating the resources of different business units or departments. Enterprises sharing resources in R&D, production, logistics and marketing can effectively reduce duplicated investments and operating costs. For example, multiple product lines can share the same logistics network or sales team, thereby reducing management costs. Cost sharing can directly reduce the operating expenses of the enterprise and enhance profitability. By integrating marketing resources and optimizing sales channels, market coverage can be expanded and market share increased. Collaboration among multiple business units can increase market penetration and enable an enterprise to better meet the needs of different customer groups. As market share increases, companies can boost revenues through higher sales volumes, thereby improving financial performance.
- (2) Financial synergy had a significant positive effect on financial performance. Financial synergy can enhance the financing ability of enterprises. Through the synergy of various business units within the enterprise, the enterprise can demonstrate stronger comprehensive strength and obtain better credit ratings, thus obtaining more financing channels and more favorable financing costs in the capital market. Intra-group collaboration helps to unify the management of capital requirements and optimize capital allocation, and it can use the internal capital market to reduce reliance on external financing, lower the enterprise's financing costs and improve financial flexibility. Improvement of the enterprise's cash flow management by optimizing the use and scheduling of funds. By coordinating the flow of funds between business units, enterprises can reduce the idle time of funds and improve the efficiency of capital

utilization. For example, through internal financial transfers, enterprises can deploy funds from cash-flow-rich departments to fund-short business units, reduce the need for external short-term financing, and thus improve the overall liquidity and solvency of the enterprise.

(3) Managerial synergy had a significant positive effect on financial performance. Managerial synergy plays a key role in supply chain optimization. By integrating the resources of internal departments and external suppliers and distributors, companies can better manage their supply chains. Synergy reduces information asymmetry and communication delays by unifying the management of purchasing, production, and logistics, thereby reducing inventory costs, shortening lead times, and optimizing cost structures. This improvement in supply chain management efficiency can enhance the profitability and market response speed of the enterprise, which in turn brings about an improvement in financial performance. Diversification can enhance financial performance through managerial synergy. When an enterprise enters multiple fields or industries, managerial synergy can effectively allocate and utilize resources and reduce duplicated management costs. Through diversified business combinations, enterprises can diversify operational risks and enhance market competitiveness. At the same time, unified managerial strategies and processes can enhance overall operational efficiency, reduce communication costs and redundant management expenditures between departments, thus enhancing the financial performance of the enterprise.

5.2 Recommendation

High and new technology enterprises should pay attention to the integration of resources, in business, talent, management, customers and other aspects of reasonable integration, give full play to the synergistic effect of 1+1>2, to obtain higher economic benefits. After the merger and acquisition of enterprises, it is necessary to carry out resource integration in a timely manner, efficiently and reasonably utilize the resources between the two, firstly, complement each other's strengths in business, and enhance core competitiveness. Secondly, according to the actual situation of the company, drawing on the management mode, stabilize and retain talents, especially the core talent, improve the enthusiasm of the staff and the company's management efficiency, to protect the core human resources, to provide vitality for scientific and technological research and development work. Lastly, this study should pay attention to technology integration, fully absorb the core technology and high-quality resources brought by mergers and acquisitions, increase investment in research and development, improve technology and innovation capacity, promote the progress of core technology, make up

for the short board of key technology, drive the high-quality development of enterprises, and improve performance. After mergers and acquisitions should pay attention to resource integration, the use of appropriate methods to steadily promote the integration of resources, otherwise it can only be rigidly summed up together, resulting in a waste of resources, unable to play a synergistic effect.

5.3 Further Study

This study was only conducted in one company, the coverage of the research subject was low and the scope of the study was small, coupled with the limitations of the researcher's own practical experience and ability, therefore, the scope of the investigation should be expanded, the research sample should be increased, and further research should be conducted on the financial performance in the future research. Not only should more M&A cases in the same industry be collected, but also the internal resources of Jinfa Technology should be explored in depth, with a view to obtaining more accurate and effective research results, so that it can become an important reference for the new chemical materials industry and other industries.

References

- Adhikari, B., Kavanagh, M., & Hampson, B. (2023). A comparative analysis of the financial performance of commercial banks after mergers and acquisitions using Nepalese data. *Central Bank Review*. *23*(3), 100-128. https://doi.org/10.1016/j.cbrev.2023.100128
- Anand, J., Singh. H. Asset. (1997). Redeployment, acquisitions and corporate strategy in declining industries. *Strategic Management Journal*, 18(1), 99-118.
- Bai, X. (2022). Research on the motivation and performance of corporate mergers and acquisitions in the pharmaceutical industry (Master's thesis). Changchun University of Technolog, Changchun.
- Barkema, H.G., & Schijven, M. (2008). How do firms learn to make acquisitions? A review of past research and an agenda for the future. *Journal of Management*, 34(3), 594 634. https://doi.org/10.1177/0149206308316968
- Baum, J.A.C., & Ginsberg, A. (1997). Acquisition experience and profitability: Exploring the value of learning by doing. Unpublished manuscript. New York University.
- Brahma, S., Zhang, J., Boateng, A., & Nwafor, C.N. (2023). Political connection and M&A performance: Evidence from China. *International Review of Economics & Finance*, 85, 372-389. https://doi.org/10.1016/j.iref.2023.01.026
- Cheng, C., Xu, Z., & Shi, B. (2019). Research on the impact of organisational capital on corporate mergers and acquisitions and M&A performance. *Research on Financial Issues*, 11, 137-145.
- Cheng, J. (2019). Analysis of overseas M&A management performance under different financing methods. *Journal of Finance and accounting*, 23, 42-45.
- Duncan, A. (2004). Speed in M&A Integration: The First 100 Days. *European Management Journal*, 22(4),418-430. https://doi.org/10.1016/j.emj.2004.06.005
- Eaton, G.W., Guo, F., Liu, T., & Officer, M.S. (2021). Peer selection and valuation in mergers and acquisitions. *Econometric Modeling: Corporate Finance & Governance Journal*, 146(1), 230-255 https://doi.org/10.1016/j.jfineco.2021.09.006
- Evangelos, V. (2020). The benefits of overvaluation: Evidence from mergers and acquisitions. *Financial Management*, 49(1), 91-133.
- Gao, Y. (2021). Research on due diligence and its risk prevention before corporate mergers and acquisitions. *Business News*, *30*, 91-93.

- Gupta S. (2012). Mergers and acquisitions for enhancing supply chain competitiveness. Journal of Marketing and Operations Management Research, 2(3), 129-145.
- Li, Z., & Yao, A. (2020). Research on M&A performance of Internet enterprises. Contemporary Financial Research, 01, 64-74.
- Ni, G. (2022). Overseas mergers and acquisitions: Motivation, risk and synergistic effect (Master's thesis). Dongbei University of Finance and Economics, Da Lian.
- Rajesh, K. S. (2018). Merger, acquisition—right move or emotional move for growth—case study of sun pharmaceutical. *International Journal of Pharmaceutical and Health-care Marketing*, 12(3), 270-287.
- Schweizer, L., Wang, L., Koscher, E.M., & Michaelis, B. (2022). Experiential learning, M&A performance, and post-acquisition integration strategy: A meta-analysis. *Long Range Planning*, 55(6), 102212. https://doi.org/10.1016/j.lrp.2022.102212
- Shi, X. (2018). Motivation and performance analysis of corporate mergers and acquisitions (Master's thesis). Donghua University.
- Son, S.H., & Kim, Y. (2023). Does cross-border M&A improve merging firms' domestic performances? *Journal of Asian Economics*. *90*, 101696 https://doi.org/10.1016/j.asieco.2023.101696
- Verma, S.K., & Kumar, S. (2024). Fractal dimension analysis of financial performance of resulting companies after mergers and acquisitions. *Chaos, Solitons & Fractals*, 181(1), 114683. https://doi.org/10.1016/j.chaos.2024.114683
- Wang, K.F. (2020). Research on the motivation and performance of corporate mergers and acquisitions in the context of high-quality development. *China Agricultural Planning*, 03,76-78.
- Wang, W. (2020). Performance evaluation and implications of internet business mergers and acquisitions from the perspective of balanced scorecard. *Accountant*, 10, 29-30.
- Wang, Z., Jiang D.C. (2021). Whether cross-border mergers and acquisitions increase corporate risk: Evidence from Chinese listed companies. World Economic Research, 03, 107-120.
- WU, X.L., LU, G. (2019). Can venture capital improve corporate M&A performance. *Finance and Accounting Monthly*, 09, 26-34.
- Yang, C. (2020). Analysis of enterprise merger and acquisition motivation. *Chinese and Foreign Entrepreneurs*, 10, 30-31.

- Zhang, S., Wang, X.M. (2020). Research on the performance of corporate mergers and acquisitions based on balanced scorecard--taking Everbright securities' Merger and acquisition of Sun Hung Kai financial as an Example. *Journal of Shenyang University of Architecture*, 22(2), 167-173.
- Zhao, S.H. (2013). Overseas M&A strategy of LT wine trading company. (Master's thesis). Shandong University, Shandong.
- Zhou, L. (2018). Motivation, mode and trend of China's industrial integration under the perspective of economic transformation. *Research on Business Economy*, 11, 172-174.



Appendix

Dear Sir/Madam,

Thank you for your participation in this questionnaire survey. The survey will be conducted anonymously, and your relevant information will be kept confidential. Thank you again for your cooperation.

Part I:

Personal basic information:(Please ☐ tick the corresponding option "✔")
1. Position
☐ High-level administrators
☐ Middle level administrators
☐ Grassroots staff
2. your gender
□ Male
☐ Female
3. your working experience
☐ Less than 1 year
□ 1-3 years
□ 3-5 years
☐ More than 5 years

Part II:

Please judge to what extent you agree with the following statement, please choose the most appropriate option, and mark the corresponding number " $\sqrt{}$ ". The questionnaire used Likert scale, ranging from 1 to 5 in which 1 indicates strongly disagree (or strongly disagree), 2 indicates relatively disagree (or relatively disagree), 3 indicates neutral, 4 indicates relatively agree (or relatively agree), and 5 indicates strongly agree (or strongly agree).

Variable	Question	1	2	3	4	5
Operational Synergy	1.After the merger and acquisition, Jinfa's productivity in key products such as ABS resin expanded significantly					
	2.After the merger, Jinfa successfully shared the fixed costs of Polaris New Materials, reducing overall operating costs					
	3.Mergers and acquisitions help Jinfa increase its market share significantly in markets such as ABS resins					

Variable	Question	1	2	3	4	5
	4.After the merger and acquisition, Jinfa					
	Technology has improved the production					
	efficiency of key products such as ABS resin					
	through resource integration and production					
	process optimization.					
	5.The M&A has helped Jinfa Technology to					
	further expand in markets such as ABS resin and					
	strengthen its brand influence and market					
	position.					
	1.After the merger and acquisition, Jinfa					
	Technology's ability to raise capital has been					
	significantly enhanced					
	2.M&A reduces the volatility of Jinfa's cash flow					
	3.M&A brings tax advantages to Jinfa (e.g. tax					
E 1	consolidation, loss credits, etc.)	1	A.			
Financial	4.After the merger and acquisition, the capital					
Synergy	structure of Jinfa Technology was optimized,					
	reducing the cost of capital and improving		8			
	financial stability.					
	5.M&A has brought higher ROI for Jinfa through					
	effective capital allocation and successful project		V			
	implementation	P				
	1.M&A has helped Jinfa realize the expansion of					
	its business scope and improve its overall					
	management efficiency					
	2.After the merger and acquisition, Jinfa					
	Technology successfully integrated the technical					
Managerial Synergy	resources of Polaris New Materials and					
	promoted the synergy of internal management					
	3.The M&A has optimized Jinfa Technology's					
	supply chain, improved the stability of raw					
	material supply, and streamlined management					
	processes.					
	4.After the merger and acquisition, the					
	organizational and management structure of					

Variable	Question	1	2	3	4	5
	Jinfa Technology was able to adapt to the new					
	business needs and scale, which facilitated					
	smooth management					
	5.After the merger and acquisition, Jinfa					
	Technology and Baolai New Materials have					
	achieved effective integration in organizational					
	culture, promoting employees' sense of					
	belonging and team cohesion					
	1.Jinfa's acquisition of Polaris resulted in a					
	significant increase in its net profit margin					
	compared to the pre-acquisition period					
	2.M&A activities have positively impacted					
	Jinfa's cash flow position, making it stronger and					
	more stable					
	3.Jinfa's acquisition of Polaris provided	1				
Financial	shareholders with higher dividend payments or					
performance	share price appreciation, enhancing shareholder					
periormance	returns					
	4.The M&A has enabled Jinfa to achieve					
	significant results in cost control while	7/1				
	improving overall business efficiency	/ (4)	V			
	5. The M&A has strengthened Jinfa's capabilities	6.				
	in financial management and risk control,					
	enabling it to better cope with market					
	uncertainties					

You have completed this questionnaire. Thank you for your support. I wish you a smooth work and a happy life!