

Analysis of Merger and Acquisition Motivation and Synergistic Effect of Enterprises

-- A Case Study of Wentai Technology's Merger and Acquisition of Anshi Semiconductor

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Abstract: With the advancement of the 14th Five-Year Plan, supporting the development of the semiconductor industry has become an important development strategy in China. In addition to the market environment, with the rapid development of artificial intelligence, the market demand for semiconductors has risen sharply. In this context, many domestic companies choose to seek new growth points through the layout of the semiconductor business, but due to the high technical barriers in the semiconductor industry, many enterprises choose to seek ready-made technical resources through mergers and acquisitions to obtain new growth points. Based on this background, through the case analysis of enterprise merger and acquisition, the motivation and synergistic effect of enterprise merger and acquisition are studied, and the existing problems and experience in the process of enterprise merger and acquisition are summarized. The research conclusion has a certain objective and practical significance.

Keywords: Merger and acquisition, M&a motivation, Synergistic effect.

1. Introduction

Under the policy background of "One Belt and One Road", more and more domestic enterprises are participating in the wave of global mergers and acquisitions. In recent years, the number of mergers and acquisitions in China has been increasing, but the quality of mergers and acquisitions is not high, and there are a few failed cases. At present, there are a lot of studies on the synergistic effect of mergers and acquisitions in China, and various views and suggestions have been put forward. Jiang Nan (2014), Wang Xiuli and Liu Zijian (2014), Liao Xinxin, Liu Yunguo, and LAN Hailin (2019) found through research that M&A enterprises achieved the goals of increasing financial performance, expanding enterprise scale, improving market share, optimizing resource allocation and reducing cost through M&A activities, and brought about certain synergistic effects[1]. Tong Yingxiang et al. (2021) believe that enterprises have achieved rapid development and positive synergies after mergers and acquisitions[4]. He Luling (2018), Huang Hongbin, and Yao Yu (2019) suggested that enterprises should carefully select merger and acquisition targets and attach importance to resource integration among enterprises [5,6]. Zhang Jianru and Wang Lu (2015) believe that the key to the success of M&A lies in whether it is effectively integrated after M&A and obtains a synergistic effect [7]. According to Li Dongdong and Cheng Ming (2009), how to strengthening synergies after M&A should be the focus of M&A enterprises [8]. Although there is much research on mergers and acquisitions in China, there are few case studies on the semiconductor electronic information manufacturing industry due to the nascent semiconductor industry in China. Wentai Technology's merger with Anshi Semiconductor is the largest M&A case in this industry in recent years. Therefore, this paper chooses this case to provide experience and reference suggestions for the M&A activities of other electronic information manufacturing enterprises.

2. Summary of the Related

2.1. Corporate mergers and acquisitions concepts and types

Mergers and acquisitions include acquisitions and mergers. An acquisition is when one firm acquires and acquires an equity stake in another firm and takes control of that firm. A merger is a realignment between two or more businesses. It is a property right transaction activity between enterprises in order to gain control of other enterprises under the role of the market (Bai Kun, 2013)[9]. It can optimize the allocation of enterprise resources, adjust enterprise structure, improve enterprise operating efficiency, and is a strategy for enterprises to seek development through external operating resources (Shi You, 2022)[10].

2.2. Synergy concepts as well as categories

The synergy effect refers to the reallocation of resources among enterprises through merger and acquisition activities to bring the utilization effect of the original resources to the best state. Its effect is far greater than the level existing independently in the enterprise, that is, to achieve the effect of "1+1>2". Zhou Lu (2014) discussed the evaluation method of the synergy effect from the perspective of finance; and constructed a financial analysis framework to detect the synergy effect of enterprise mergers and acquisitions from the three aspects of management, operation, and financial synergy effect[11]. Zhang Qiusheng and Zhou Lin (2003) summarized the classification of synergies by previous scholars: synergies can be divided into managerial, operational synergies, and financial synergies[12].

Management synergies, also known as differential efficiency theory, refer to the efficiency changes and efficiency improvements brought by mergers and acquisitions to enterprise management activities. In other words, the party with rich management resources allocates resources through

merger and acquisition to help the party with weak management ability improve management efficiency, so that the overall management efficiency is higher than before the merger and acquisition, indicating that the management synergy effect has been obtained (Li Qingyuan, 2011).[13].

Operating synergies are mainly reflected in the improvement of the efficiency of business activities and the future growth of enterprises after merger and acquisition. Specifically, it includes economies of scale, complementary advantages, cost reduction, market share expansion, and more comprehensive services generated by M&A (Xiao Xiang, 2007).[14].

Financial synergies refer to the financial benefits brought by mergers and acquisitions to the company, including the improvement of financial capacity, reasonable tax avoidance, and expectation effect (Gao Yu and Niu Xinxiang, 2016).[15]. The so-called financial synergy effect refers to the internal funds of the acquired enterprise with low capital cost are invested in the high-benefit projects of the acquired enterprise after the occurrence of merger and acquisition, so as to improve the efficiency of the use of funds of the merged enterprise.

3. Case Introduced

3.1. Overview of merger and Acquisition parties

3.1.1. Profile of Wentai Technology

Wentai Technology was founded in Jiaying, Zhejiang province in 2006, and its main business is mobile phone solution design. In 2008, it started to provide complete machine manufacturing services in its production base in Jiaying, transforming from an independent design house (IDH) to an original design manufacturer (ODM). In 2017, the company changed its name to "Wentai Technology Co., LTD." through the merger and acquisition of Zhongyin Stock backdoor listing, and determined the strategic goal of taking the electronic information industry as the core development direction of the company. As a result, the company has become the only mobile phone ODM company listed in A shares.

3.1.2. A brief introduction to Anshi Semiconductor

Anshi Semiconductor is a global industry leader in semiconductor standard products with a strong reputation in the industry, ranking first or second in market share in several segments. Its main products are semiconductor logic chips, discrete devices, power MOS devices, etc. Its downstream partners cover the world's top manufacturers and service providers in automotive, communications, consumer electronics, and other fields, and its sales network spans the world.

3.2. M&A Process

On May 2, 2018, Wentai Technology and Hefei Xiping, the counterparty of the transaction, signed the "Property Rights Transfer Contract" to acquire the fund shares of Hefei Guangsi Semiconductor Industry Center (limited partnership) of RMB 493,664,6306.59 million with the transaction consideration of RMB 11,435 million. Thus, it indirectly acquired 33.66% of the equity of Anshi Semiconductor.

In September 2018, Wentai announced the draft of the cash purchase and decided to acquire the majority of GP and LP shares (domestic and overseas) of the remaining investors by

issuing shares and paying cash, so as to achieve control over the target company and complete the second merger and acquisition of Wentai Technology and Anshi Group, with a shareholding ratio of 74.45%.

On April 27, 2020, Wentai Technology announced that it planned to acquire the relevant equity shares of the upper investors of the remaining shareholders by issuing shares and paying cash. The consideration for this transaction was 6.334 billion yuan, including 150 million yuan in cash and 6.184 billion yuan in shares. This marks that the company has held a total of 98.23% of Hefei Yuxin's equity ratio, and indirectly holds 98.23% of the equity ratio of Anshi Semiconductor.

On September 4, 2020, Wentai Technology signed a contract with CCB International to formally acquire the 1.77% equity of Anshi Group held by CCB International. After the completion of the transaction, Wentai Technology holds 100% of Hefei Yuxin's equity and indirectly 100% of Anshi Semiconductor's equity.

3.3. Merger and Acquisition Motivation

3.3.1. Diversify operations to find new growth points

Before 2018, Wentai Technology was relatively dependent on the mobile phone ODM business, and rarely set foot in other product fields, and the business field was relatively narrow. In recent years, with the acceleration of the replacement of smartphones, the era of rapid growth in the global smartphone market has passed, and it began to enter the era of the stock market that is difficult to digest. The ODM business of Wentai Technology is located in the midstream of the consumer electronic equipment manufacturing industry chain, and its business needs rely heavily on downstream smartphone manufacturers. The decline in smartphone shipments will directly affect the business performance of ODM manufacturers. Wentai Technology, which has only a single communication business segment, will face the rise of market risks brought about by the change in the industry environment.

In addition, due to the impact of the international economic situation in 2018, the supply cost of its upstream chips and other supplies has risen significantly. In addition, the current smartphone industry is in a mature stage, and its downstream customers include Huawei, Xiaomi, Lenovo, and other large enterprise customers, which greatly enhance the bargaining power of the buyers with a large amount of business procurement. Under these two forces, the ODM business profit of Wentai Technology has been compressed to a large extent. In recent years, the net profit of Wentai Technology decreased from 335 million yuan in 2017 to 72 million yuan in 2018, showing a downward trend.

In general, Wentai Technology is facing the operating risk of a single business and profit compression. In order to get rid of this predicament, Wentai Technology urgently seeks new profit growth points to realize the sustainable development of the company; and lays out its development strategy through diversification.

3.3.2. To avoid market barriers and seize market opportunities

Because the industry research in China starts late, semiconductor key technologies were firmly in foreign enterprises, leading to very high technical barriers, in order to grasp the current domestic semiconductor market blank of strategic opportunities, through direct acquisition Anshi to Wentai semiconductor science and technology to avoid barriers to entry, quickly layout and strive for more market

opportunities and market share, By using the existing technology and management experience of Anses, it can avoid the risks of its own research and development and enter into new markets.

In addition, it is a period of rapid development of emerging industries such as the automotive Internet and 5G, among which the most significant impact is such as the new energy vehicle industry. Ann the automobile electronic business is one of the main sources of income, WenTai will enter the automotive electronics industry, after the merger of science and technology in recent years, the momentum of the development of new energy vehicles more and more fierce, large-scale alternative fuel vehicles in new energy vehicles, autonomous, unmanned layout before it has advanced technology mature, for WenTai preemption of science and technology of new energy automobile market share has provided an opportunity, After merger and acquisition can form greater economic benefits.

3.3.3. Obtain synergies and improve the competitiveness of enterprises

From the industrial chain, Wentai Technology and Anshi Semiconductor belong to the upstream and downstream relationship, Wentai Technology's main ODM business, and the subsequent layout of the 5G market for the semiconductor industry is undoubtedly a huge demand. Since China's semiconductor industry started too late, most of the domestic demand for semiconductors is solved through imports. In addition to the international situation in 2018, the technology blockade from abroad, and the import limit of the semiconductor industry, the cost of Wentai's main business has become very unstable, and the supply is not guaranteed.

After the acquisition of Anshi Semiconductor, for Wentai Technology, it is conducive to effectively controlling the cost, quality, and supply reliability of key raw materials and other inputs, and ensuring the steady progress of production and operation activities of the enterprise. As a leading ODM business enterprise in China, Wentai Technology can take advantage of its position and reputation in the domestic market to help Anshi Semiconductor expand the domestic sales market. For both sides, the configuration of resources within the enterprise always difficult to achieve balanced, or have a certain advantage in resources or some deficiencies, mergers, and acquisitions both sides as the leading technology of high science and technology companies, resource sharing, complementary advantages, through mergers and acquisitions can promote technology innovation to improve product

differentiation, raise the competitiveness of the enterprise.

4. Synergistic Effect Analysis and Evaluation

4.1. Management synergy analysis

The most intuitive manifestation of management synergy is the reduction of management costs and the improvement of management efficiency. Management cost is manifested as the change in management expenses, and the improvement of management efficiency is mainly reflected in the improvement of management efficiency and the integration of human resources to save sales expenses. In addition, it is also reflected in the improvement of the utilization efficiency of enterprise operating assets after the improvement of the enterprise management level.

4.1.1. Cost control ability

The expansion of enterprise-scale after merger and acquisition; will inevitably lead to the rise of administrative expenses and selling expenses, so this paper analyzes the cost control ability of Wentai Technology after the merger and acquisition by comparing the relative index of the change of expenses to operating income.

As can be seen from the figure below, the administrative expense ratio of Wentai Technology before the merger is much higher than that of other years, because the financial statement format of Wentai Technology in 2017 has not been updated, and its administrative expenses include a large number of R&D expenses. After the completion of the merger in 2019, the overhead ratio showed an obvious upward trend. In addition to the expansion of the business scope and a large amount of R&D investment, the equity incentive expense caused by the implementation of the equity incentive policy in 2020 led to a sharp increase in overhead. From the perspective of the sales expense ratio, it also showed an upward trend due to the increase in business after the merger and acquisition; and showed a downward trend in 2021. Overall, the cost control situation after the merger of Wentai Technology and Ansei Semiconductor was not ideal, and the management synergies were not realized. The main reason is that it is currently in the integration stage, during which a large amount of money needs to be invested to run in and break through the barriers of internal information exchange. The specific management synergies need to be further observed in the later stage.

Table 1. Cost control ability Index of Wentai Technology Group from 2017 to 2021

	2017	2018	2019	2020	2021
Management fees	814,417,316.53	295,491,870.04	615,288,348.51	1,287,618,314.16	2,026,115,200.87
Cost of sales	141,388,727.45	150,556,150.38	483,613,616.95	816,374,649.03	759,706,744.91
Operating income	16,916,232,210.01	17,335,108,186.05	41,578,163,284.38	51,706,626,949.92	52,728,649,531.06
Administrative expense ratio	4.81%	1.70%	1.48%	2.49%	3.84%
Sales expense ratio	0.84%	0.87%	1.16%	1.58%	1.44%

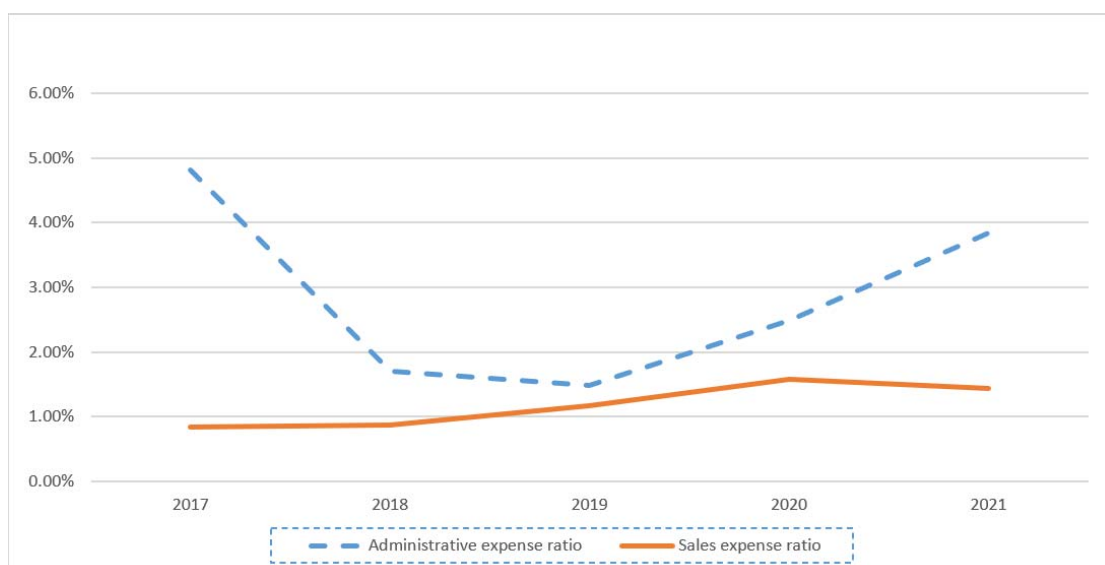


Figure 1. Change trend of expense control ability index of Wentai Technology Group during 2017-2021

4.1.2. Asset Management Capability

Since Wentai Technology is a large-scale manufacturing industry, this paper mainly analyzes the asset management ability of Wentai Technology after merger through inventory and accounts receivable turnover.

From the perspective of inventory turnover rate, the faster the inventory turnover rate, the lower the inventory occupation level, the stronger the liquidity, and the faster the inventory into cash. The inventory turnover of Wentai Technology showed an upward trend before the merger but began to decline in 2020 after the completion of the merger. The main reason is that the original business production process of Wentai Technology is simple compared with that

of Ansei Semiconductor business, while the production cycle of Ansei Semiconductor business is long, which reduces the inventory turnover rate. From the perspective of the accounts receivable turnover ratio, a higher accounts receivable turnover ratio indicates a higher capital utilization efficiency. It showed a downward trend before the merger and acquisition, and an upward trend after the merger and acquisition in 2019, and returned to the level of 2017 in 2021, indicating that Wentai Technology has improved its capital utilization efficiency after the merger and acquisition. In general, Wentai Technology is not ideal in asset management after the merger and acquisition, and there is still a lot of room for improvement, and the management synergies after the merger and acquisition are not significant.

Table 2. Asset management Capability Indicators of Wentai Technology Group from 2017 to 2021

	2017	2018	2019	2020	2021
Inventory turnover ratio	398.43%	655.30%	1021.11%	746.81%	711.03%
Accounts receivable turnover ratio	740.95%	508.15%	441.06%	505.96%	671.08%

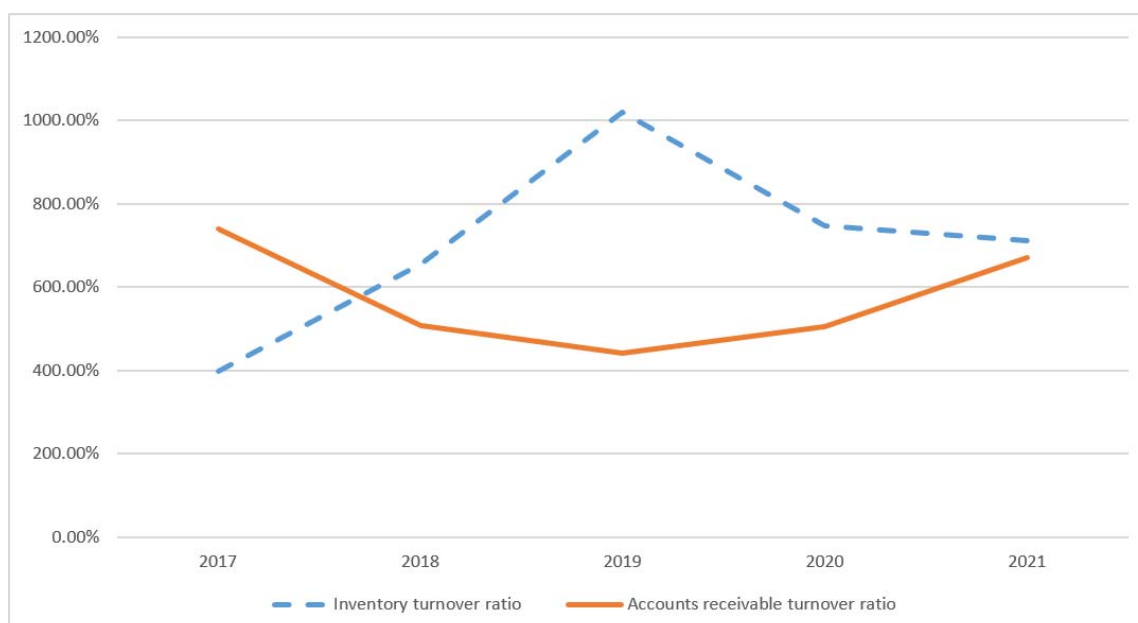


Figure 2. Trend of asset management capability Indicators of Wentai Technology Group from 2017 to 2021

4.2. Analysis of operating synergies

The theory of operating synergy is mainly reflected in the improvement of operating efficiency and sustainable growth ability. On the one hand, the integration of upstream and downstream, ensure the stability and reliability of upstream supply and control of key raw material costs, which will ensure the steady production of enterprises, conducive to the long-term development of earnings; On the other hand, R&D and innovation capability is the key for enterprises to maintain strong competitiveness in the market. After the merger and acquisition, the technology of both sides can be coordinated through internal sharing, and product differentiation can be improved to enhance the competitiveness of enterprises and ensure their sustainable development of enterprises. Therefore, this paper mainly analyzes the operational synergy effect of Wentai Technology after the merger from the perspective of growth capability and R&D and innovation capability.

4.2.1. Growth ability

This paper analyzes the growth ability of Wentai Technology after the merger by selecting the operating income and the growth rate of operating income.

As can be seen from the following figure, before the merger, the original industry of Wentai Technology has entered the mature stage, and the revenue growth has been difficult to break through. In mergers and acquisitions after the semiconductor, income has been a sharp growth, also breaking through 50 billion in revenue in 2019, in addition to the semiconductor business bringing direct income, also put the world semiconductor market advantage abroad radiation to the main business of WenTai itself, for its open the overseas market, at the same time open the domestic market for the semiconductor business. Therefore, it can be seen from the growth capacity that Wentai Technology has achieved significant business synergies in this merger.

Table 3. Growth Capability Indicators of Wentai Technology Group from 2017 to 2021

	2017	2018	2019	2020	2021
Operating income	16,916,232,210.01	17,335,108,186.05	41,578,163,284.38	51,706,626,949.92	52,728,649,531.06
Growth rate of operating income	26.08%	2.48%	139.85%	24.36%	1.98%

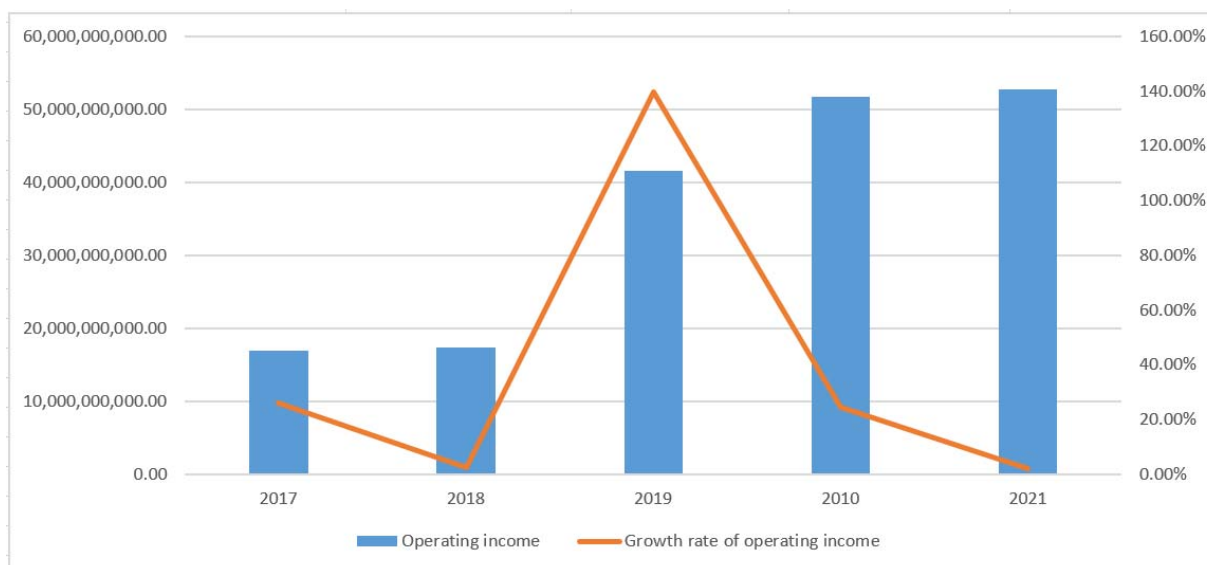


Figure 3. Trend of growth capability indicators of Wentai Technology Group during 2017-2021

4.2.2. R&d Innovation Capability

This paper analyzes the R&D and innovation capability of Wentai Technology after the merger through the change in R&D expense and the number of researchers.

As can be seen from the table below, in the years before and after the merger, the R&D expenses and R&D personnel of Wentai Technology have increased significantly. Through the merger, Wentai Technology has expanded its product offerings from its original single mobile communications

business to businesses such as semiconductors and electronic components using new technologies. In particular, the research and development of third-generation semiconductor products, such as gallium nitride and silicon carbide, has been successful, enabling many 5G, IoT, and automotive customers to import and sign strategic cooperation agreements with the company's products. Therefore, through the R&D and innovation capability, we can see that the merger of Wentai Technology has achieved significant business synergies.

Table 4. Indexes of R&D and innovation capability of Wentai Technology Group during 2017-2021

	2017	2018	2019	2020	2021
Research and development costs	556,868,012.08	732,055,244.08	1,319,607,673.12	2,221,025,086.78	2,689,465,156.99
Number of R&D personnel	2429	2614	4455	5459	7045

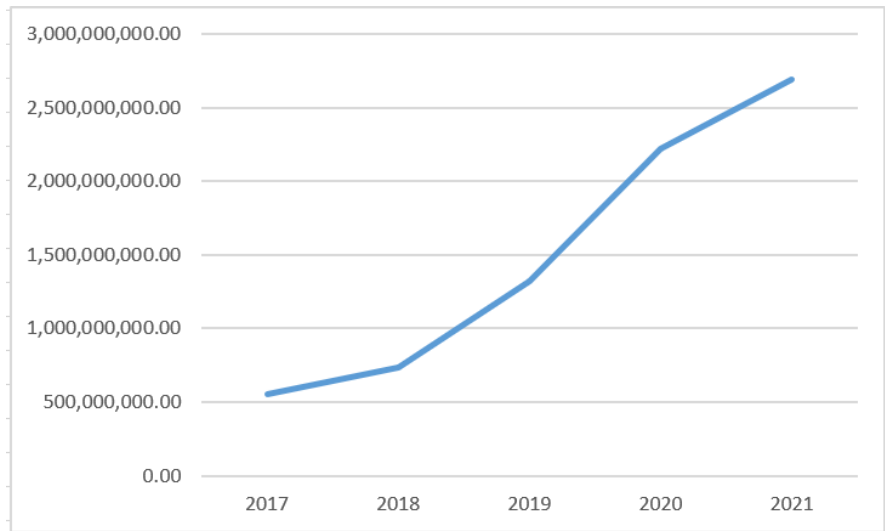


Figure 4. Trend of R&D innovation capability indicators of Wentai Technology Group from 2017 to 2021

4.3. Analysis of financial synergies

The financial synergy effect is reflected in the expansion of enterprise capital, the relative reduction of bankruptcy risk, and the improvement of debt-paying ability. After the merger, the internal debt affordability of the enterprise will be transferred from one enterprise to another, so that the debt capacity of the enterprise with high solvency will be transferred to the enterprise with low solvency, which solves the debt solvency problem.

4.3.1. Debt-paying ability

The current ratio and quick ratio is an important index

reflecting the enterprise's short-term debt-paying ability, liquidity ratio and quick ratio is generally best kept in 2, and 1 case, from below the current ratio and quick ratio can be found that after completion of the merger, the two indicators is much higher than before the merger presents obvious rising trend. Among them, the quick ratio reaches the best ratio level, while the current ratio is lower than 2. However, compared with before the merger, its solvency has significantly improved. From the aspect of the debt-paying ability, it can be seen that the merger and acquisition, of Wentai Technology, has obtained relatively significant financial synergies.

Table 5. Solvency indicators of Wentai Technology Group from 2017 to 2021

	2017	2018	2019	2020	2021
Current assets	7,551,002,845.02	11,824,012,888.19	30,823,473,838.98	24,928,606,623.80	30,445,602,072.72
Quick assets	4365037263.40	10198755656.63	25145694855.86	18794739469.88	24146696220.71
Current liabilities	7,207,172,996.65	13,131,000,165.16	31,068,858,636.49	21,477,761,249.05	23,727,401,392.61
Current ratio	104.77%	90.05%	99.21%	116.07%	128.31%
Quick ratio	60.57%	77.67%	80.94%	87.51%	101.77%

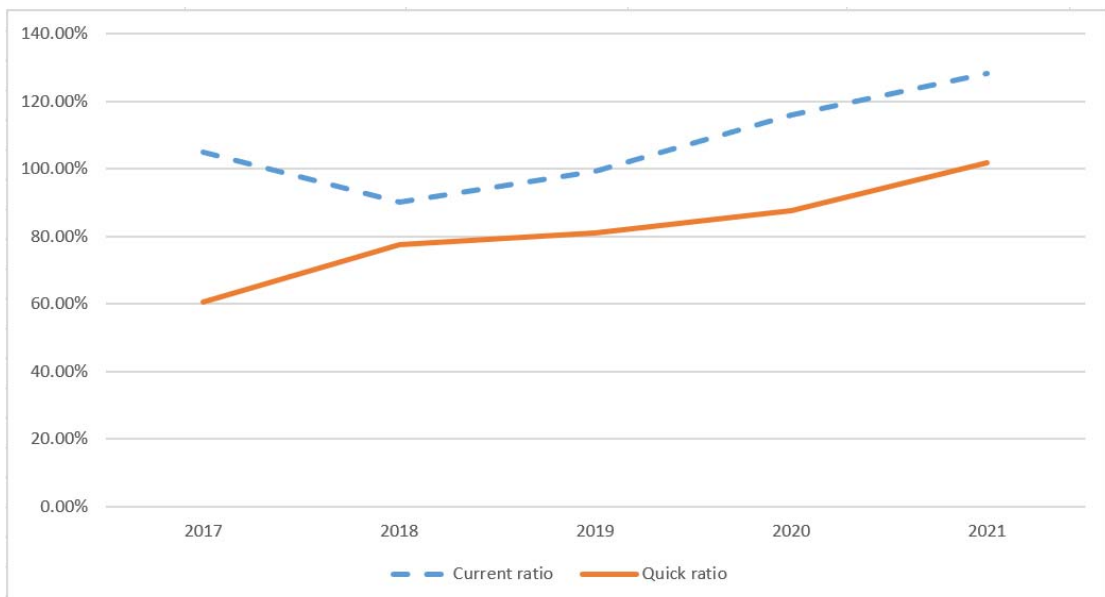


Figure 5. Trend of solvency indicators of Wentai Technology Group from 2017 to 2021

5. The Research Conclusion

This paper analyzes the merger motivation and synergistic effect of the merger case of Wentai Technology, so as to provide a relevant reference for future mergers and acquisitions in the semiconductor industry. The following conclusions are drawn in this case study, which is also the points that companies in other industries should pay attention to when M&A: First, do a good job of strategic planning before M&A and select the appropriate target enterprises. If sufficient planning is not done before the merger, it is easy to cause the enterprise to overestimate the attractiveness and control of the target enterprise, which not only makes it difficult to achieve the strategic goal but also increases the exit cost in the market; The second is to realize the integration of resources as soon as possible after the merger, so as to obtain the synergistic effect of merger and acquisition. Through integration, advantages complementation, customer sharing, and resource communication can be realized, which improves the core competitiveness of the whole company. If the integration is not timely or even fails, the market opportunity will be lost and the whole merger and acquisition will lose significance. Third, we should actively participate in the external market trend and give play to our policy advantages. Although M&A is a common means for enterprises to optimize the allocation of resources, it should not blindly follow the trend. It should always pay attention to market changes, especially the general trend guided by national policies. While enjoying preferential policies, it can predict the market layout in advance to seize the market share in new fields.

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