

# *Problems of Huge Goodwill in Merger and Acquisition: Analysis and Solution*

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**Abstract**—This paper studies the problems and risks that may exist in the process of high-goodwill mergers and acquisitions. Specifically, taking the event of TONZE ELECTRIC CO.,LTD's cross-industry M&A of Xintai material in 2016 as an example, the reasons for declined financial performance of the acquired party in 2017 are explored. Through the Analysis, it is proved that the TONZE ELECTRIC CO.,LTD entered the lithium battery field was due to the factors such as weak growth in its main business, huge potential in the lithium battery industry, and emerging cases in high-premium merger and acquisition. The huge amount of goodwill impairment provision which is up to 150 million yuan accrued after this M&A is the main reason for the sharp decline in financial results in 2017. Further analysis reveals that the main reasons for the goodwill impairment provision include the unreasonable strategy before mergers and acquisitions, high amount of goodwill recognized during the merger and acquisition process, and the sudden changes in external environment after TONZE's merger and acquisition. Finally, we propose relevant countermeasures and suggestions to solve the above problems. This countermeasure is also applicable to other high-goodwill merger and acquisition cases, and has guiding significance for future design of mergers and acquisitions.

**Keywords**—goodwill; mergers and acquisitions; goodwill impairment provision; financial performance

## I. INTRODUCTION

Today, the economy and society is developing at an unprecedentedly high speed. Hot topics such as artificial intelligence, big data, internet of things, green energy are emerging one after another. Many companies are rapidly entering new industrial fields through cross-border M&A strategies and gaining market share in new areas. It is expected to achieve diversification development while finding new profit growth points [1-5].

For example, in October 2016, the traditional small company TONZE ELECTRIC CO.,LTD announced that it would acquire a new lithium-ion battery industry, Xintai Materials, at a price of 2.7 billion yuan, and enter the lithium battery industry with high-profile cross-border. Affected by the merger and acquisition, TONZE ELECTRIC CO.,LTD achieved a historic glory. The management layer of TONZE ELECTRIC CO.,LTD hoped to adopt the dual main business strategy through this merger and acquisition, and build a new diversified development approach for the company. Xintai Materials, a wholly-owned subsidiary of TONZE ELECTRIC CO.,LTD, achieved a net profit of 291 million yuan in 2016, exceeding the target value. The consolidated net profit of

TONZE ELECTRIC CO.,LTD in 2016 also reached 77.09 million yuan, a significant increase as compared to the previous year. In October 2017, TONZE ELECTRIC CO.,LTD announced that the company's net profit for the year will be as high as 208 million yuan-246 million yuan, an increase of 170%-220% over the previous year. The good news pushed up the company's stock price step by step, and it seemed that everything was moving towards a brilliant direction.

However, in January 2018, TONZE ELECTRIC CO.,LTD suddenly issued a revised announcement of the financial performance, announcing the revision of the 2017 company's financial performance as "profit of 14 million to 34 million yuan, declined 55.85%-81.82% year-on-year". Since then, the company's stock price was constantly falling, and the investors were all stunned. Xintai Materials, which once was highly promising and contained a huge amount of goodwill, became a hot potato. In just two months, the company's financial performance turned from profit to loss. The company's stock price thus fell sharply from mid-December 2017 to early February 2018, which continued to slump and was not recovered.

This event motivates us to consider the following four problems:

Q1: What caused the landslide of TONZE ELECTRIC CO.,LTD's financial performance?

Q2: What caused the goodwill impairment provision?

Q3: Why did TONZE ELECTRIC CO.,LTD acquire Xintai Materials with a high premium?

Q4: How to solve such problems in the M&A?

In this paper, we take the above financial case as an example to show that the huge goodwill in the merger and acquisition may incur some problems and remain the risks of financial development. Then we analyze the reasons and propose the reasonable countermeasure to solve such problems in the mergers and acquisitions.

## II. ANALYSIS

### A. The Motivation of High Premium in Merger and Acquisition

Based on SWOT analysis model [6], as shown in Fig.1, we systematically analyze the internal and external environment

of TONZE ELECTRIC CO.,LTD's original main business, the small household appliance business, and tries to find out the main motives of TONZE ELECTRIC CO.,LTD's cross-border mergers and acquisitions. The main advantage of the company is that it started early in the small household appliance industry in China, combining traditional Chinese cooking methods with "safety and convenience" to produce a series of kitchens appliances which have a certain market competitiveness. In terms of opportunities, the awakening of the health consciousness of the Chinese people in recent years has formed a large market demand. At the same time, people tend to buy smart household appliance like TONZE's products, which provides a new direction for the industrial upgrading of the traditional home appliance industry. However, TONZE's varieties of products are few when compared with other small household appliances brands. Besides, the company's existing research and development capabilities are insufficient to support Multi-products strategy. In addition, the company's current market publicity is limited, and brand awareness and reputation are low. As a small household appliance industry closely related to people's lives, its market competition has been fierce. On one hand, other small household appliances continue to occupy the market in the traditional kitchen small household appliances field. On the other hand, due to the low threshold to enter in the small household appliance industry, there will be more and more potential entrants in the industry, and continue to seize the profits of existing small household electrical appliance enterprises. Therefore, it's hard for TONZE to gain more profit in its original main business.

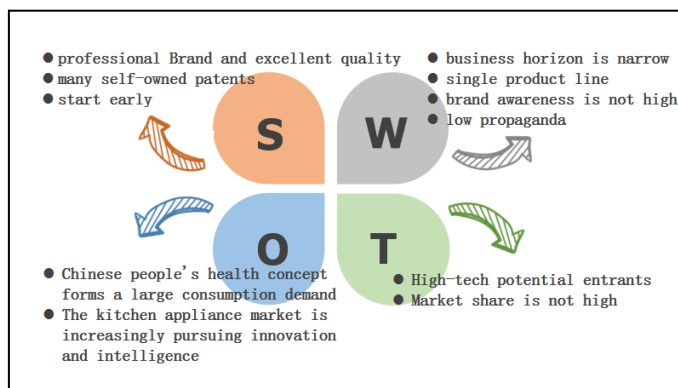


Fig. 1. SWOT analysis figure.

### B. The Financial Consequences of High Premium

In order to deeply analyze the impact of this merger and acquisition event on the financial performance of TONZE, the following systematic analysis is presented in two aspects: the overall business status of the enterprise (sub-business situation, overall business situation), and corporate accounting subjects (goodwill, assets impairment loss).

#### (1) Overall business status of the company

After the M&A of Xintai Materials by TONZE in 2016, the company adopted the dual main business strategy. In 2017, due to the substantial growth of the lithium battery business revenue, although the income of small household appliance

business slightly degrades, the overall operating income of TONZE ELECTRIC CO.,LTD in 2017 achieved a substantial increase. The annual revenue reached 853 million yuan, an increase of 171.06% compared to 2016. However, under the glamorous appearance of revenue growth, the company's net profit margin is not satisfactory. The net profit in 2017 was only 22.18 million yuan, a sharp drop of 71.19% compared to 2016.

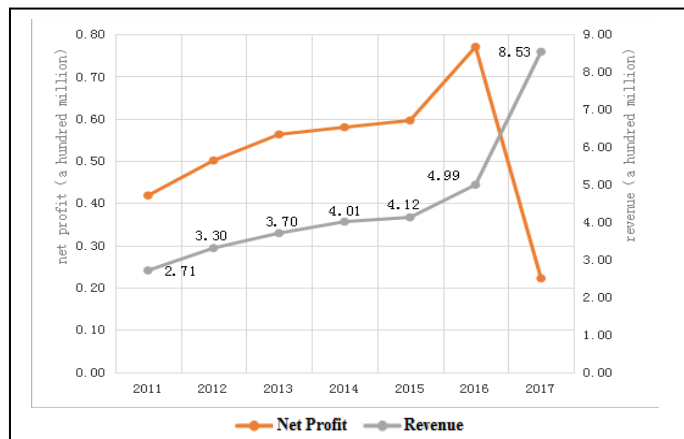


Fig. 2. The tendency of net profit and revenue.

#### (2) Corporate accounting subjects

As is shown in Fig.3, before the M&A of Xintai Materials in 2016, TONZE's goodwill was zero. In November 2016, TONZE confirmed a total of 2.319 billion based on the evaluation of Xintai Materials' excess profitability. In 2017, after TONZE's goodwill impairment provision, the proportion of goodwill to assets at the end of the year was still as high as 58%. It can be foreseen that the proportion of goodwill in the company's total assets is too high, which will remain a hidden danger to the company's future business development.

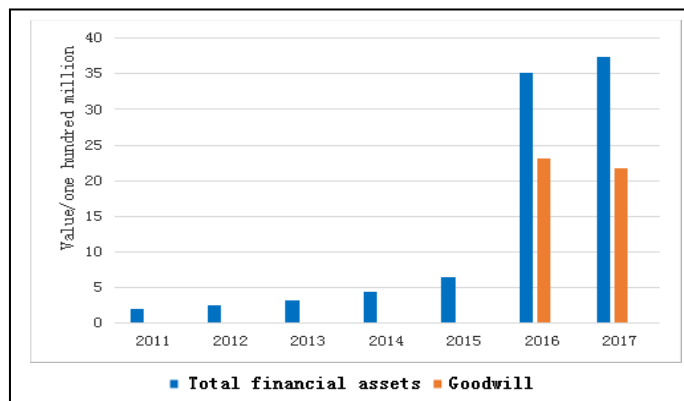


Fig. 3. The tendency of total assets and goodwill.

In the second year after TONZE's M&A of Xintai Materials, due to factors such as the adjustment of the national new-energy vehicle subsidy policy [7], the market price on sale of lithium battery continued to decline, and Xintai Materials' net profit for the whole year was less than the expected value. The TONZE ELECTRIC CO.,LTD provided the impairment of goodwill for RMB 1501400000 accounting for 97.4% of the

impairment loss of assets [8]. It demonstrated that the goodwill impairment provision is the main components for the current asset impairment loss.

As shown in Fig.4, the net profit margin of TONZE has been stable at around 15% in recent years, and plummeted to 2.60% in 2017. Therefore, in 2017, while the overall business gross profit margin maintained a good upward trend, sharp decline in the net profit margin because of the 150 million huge goodwill impairment provision can't be covered.

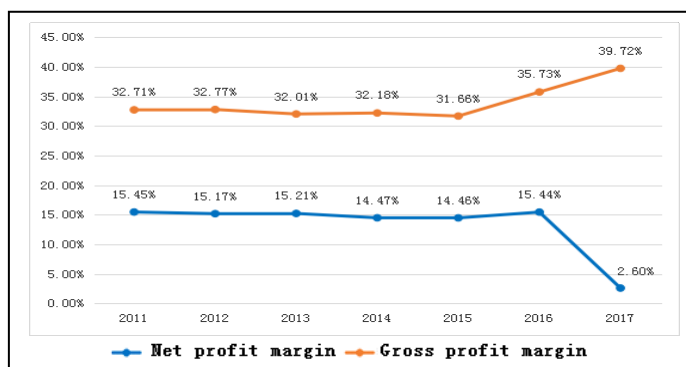


Fig. 4. The tendency of net profit margin and gross profit margin.

Assuming that if TONZE ELECTRIC CO.,LTD did not accrue 150 million goodwill impairment provision, then the company's asset impairment loss for the year would be only 0.04 billion yuan, and the net profit will be 139 million yuan. This net profit would increase by 80.52% compared with the net profit of 67 million yuan in 2016. Therefore, the provision for huge amount of goodwill impairment is proved to be the main driver of the company's sharp decline in 2017.

### C. The reasons for accruing huge amount of goodwill impairment provision

(1) Before the M&A: the M&A strategy is unreasonable, resulting in the inability to exert synergies

For a company, cross-border M&A is an opportunity and also a challenge. An important key to success is whether a reasonable M&A strategy can be formulated before the M&A, and whether the integration work can be done well and a good synergy effect can be achieved. Through the analysis of the motivation of the above-mentioned high-goodwill merger and acquisition of Xintai materials, we can find that TONZE ELECTRIC CO.,LTD does not own relevant experience in the lithium battery industry, and lacks the necessary professional technical support. This cross-border M&A is expected to find another way to explore new business development areas due to the bottleneck of the development of the main business. Cross-border entry into the lithium battery industry is affected by the factors such as the bullish battery market, the surge cases in lithium battery mergers and acquisitions, and the high goodwill cases in the M&A. All of the above elements reflect that the M&A strategy of TONZE ELECTRIC CO.,LTD was unreasonable before the M&A.

The unreasonable M&A strategy of TONZE ELECTRIC CO.,LTD led to a lack of synergy effect after the M&A. Although TONZE ELECTRIC CO.,LTD has publicized that it

already has "double main business", based on the above analysis of the overall business situation of the company, we can find that the gross profit margin of "double main business" decreased after the cross-border, and the synergy effect of the business was not ideal. In addition, both TONZE and Xintai Materials companies, as the parties of M&A, require a large amount of manpower, material resources and financial resources to integrate, which is reflected in the financial aspect as a sharp increase in General & Administrative expense.

Table I shows the estimated amount and actual amount of Xintai Materials' General & Administrative expense in 2016 and 2017. It can be found that the actual G&A expense of the two years is much higher than the expectations. The possible reason for the high actual G&A expense in 2016 is that the cost of the merger and reorganization is relatively high, and the possible reason for the high actual G&A expense in 2017 is that the integration cost after the M&A is high.

It is proved that the two companies that do not have the same industry market and cross-business, and inevitably generate large integration cost after the merger and acquisition. Unfortunately, the synergy effect of the merger and acquisition is not obvious, which reveals the irrationality of the M&A strategy.

TABLE I. ESTIMATED AND ACTUAL G&A EXPENSE

Year	2016	2017	2018	2019	2020
Estimated G&A expense (10000yuan)	1760.60	2448.49	2808.37	3099.94	3447.93
Actual G&A expense (10000yuan)	3808.04	6848.84	—	—	—

(2) In the M&A: the confirmed amount of goodwill is too high which exists a hidden danger

The assessment concluded that the direct material cost of lithium battery would increase in the future, and the change of price was small, thus it was estimated to increase at an average rate of 12% per year. However, in 2017, the cost of raw material of lithium battery rose sharply beyond the expectations. In addition, it is not expected that the market price of lithium battery is affected by the factors such as overcapacity in the industry and changes in the policy dropped sharply in 2017. These elements led to the significant decline in the gross profit margin of Xintai Materials. Therefore, the gross profit margin estimated to be very high, and the constantly falling of actual gross profit margin is one of the important reasons for the goodwill impairment provision.

TABLE II. ESTIMATED GROSS PROFIT MARGIN

Year	2014	2015	2016	2017
gross profit margin	-15%	36%	77%	55.11%

Through the M&A evaluation report, we can see that the 2.7 billion M&A price is based on the good industrial growth of the lithium battery industry in the future. In order to ensure future performance, the two parties also agreed a valuation

adjustment mechanism(VAM) where Xintai Materials promised that the operating income in the next three years will reach 187 million yuan in 2016, 240 million yuan in 2017, 248 million yuan in 2018 respectively, and if the operating income does not reach the standard, it will compensate the TONZE accordingly. It means that whether to make impairment provision for huge amount of goodwill in 2017 mainly depends on the completion condition of Xintai Materials in the last year.

There is an assumption: when the gross profit margin of lithium battery continues to fall, and Xintai Materials can not rely on the unit gross profit margin of product to obtain high unit profit, can Xintai Materials rely on increasing of sales volume to achieve its performance targets?

Fig.5 compares the predict sales in the M&A evaluation report with the actual sales of Xintai materials, in which we can find that the actual sales of Xintai Materials in 2017 (2021.05 tons) is much lower than the predicted value (2,600 tons). So the above assumption to complete the performance commitment is unfeasible.

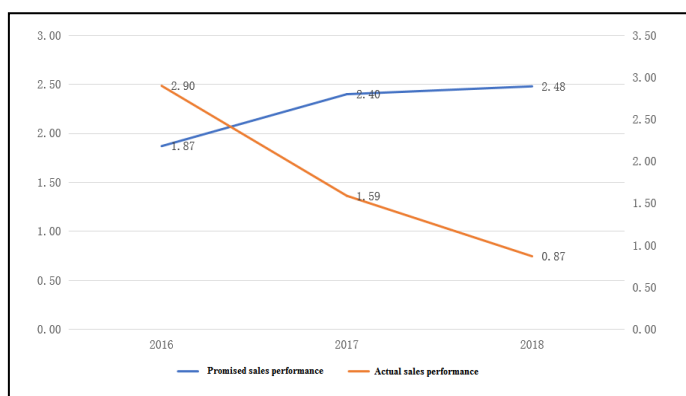


Fig. 5. The comparison of predict sales and actual sales.

(3) After the M&A: the external environment is mutated and the risk of impairment increases

In the past two years, the situation of China's lithium battery market where the demand exceeds supply has quietly changed, and there exists a situation of overcapacity. With the gradual development of the lithium battery industry, the national technical requirements become more stringent, and the requirements for enterprises to obtain policy subsidies are further promoted. Under this circumstance, the overall profit margin of the lithium battery industry has shrunk and the competition has become more intense. The price of lithium battery had dropped directly from RMB 350,000/ton to RMB 110,000/ton in April 2018 but the price of battery's raw material was rising rapidly in the past three years.

In addition, in the situation of the brutal growth of the lithium battery industry in recent years, the country has gradually strengthened the supervision of the lithium battery industry since 2016. It is more stringent of the demand of battery capacity and technical support, and some companies whose technology, production or capacity can't meet the trade standard are excluded in one document. As a result, some battery suppliers will face the risk of being phased out.

Unfortunately, Xintai Materials failed to satisfy the standard, which also led to the provision of goodwill impairment.

### III. SOLUTION

#### A. Before the M&A - rational planning of the M&A strategy, carefully selecting the M&A industry

For a company, mergers and acquisitions are obviously a significant investment strategy. Cross-border mergers and acquisitions greatly expand companies' opportunities, followed by the same level of risks. Successful mergers and acquisitions enables companies to enter new field quickly and achieve diversified development, but once cross-border mergers and acquisitions fail, these companies will not only lose diversified development, but also make the development of the original main business suffer, and even worse, they will fall into financial difficulties. Therefore, before the merger and acquisition, the company should reasonably plan the M&A strategy and carefully select the M&A industry.

Specifically, before the M&A, the company should fully analyze the information of the target industry and study the basic conditions of the target company. A good understanding of the target company's status means not only obtaining information from financial statements, but also communicating with it for obtaining more detailed and truthful information. By examining the various aspects of the company's corporate strategy, understanding the company's sense of value, core products, and evaluating the development prospects are very beneficial to the M&A itself and future management. In addition, learn more about the industry and make horizontal comparisons. Is this company the best choice? Can the synergies between the two sides be achieved in the future? Can the merger and acquisition create more possibilities for the future development of the company? By comparing horizontally, exploring the complementarity and integration of the target company and our company to find the answers to these questions can reduce the risk that synergy cannot be achieved. If the acquirer just focus on the development of this industry and boldly merging, it is likely that the M&A will be frustrated or even fail. In this case, we can also see that due to the lack of correlation between the small household appliance industry and the lithium battery industry, TONZE lacks adequate cognition of the lithium battery industry, and the border crossed is too far and the information is insufficient, all of which causes the suffering of TONZE.

#### B. In the M&A - refine the goodwill confirmation measurement indicators

From the above case, we can find that the TONZE confirmed a huge goodwill of 2.3 billion yuan in the M&A, which is a major hidden danger leading to the 150 million yuan goodwill impairment provision in 2017. Therefore, in the future merger and acquisition process, the companies should adopt a more cautious attitude to deal with the issue of goodwill in mergers and acquisitions. In the initial measurement of goodwill, the determination of market fair value in the M&A, the impairment test of goodwill and the measurement indicators should be refined in detail.



First, carefully determine the fair value of the assets, and consider the difference of the purchase date. In the M&A activity, the fair value of the acquired company on the purchase date is always not equal to its book value, which is mainly manifested that fair value of the market often far exceeds the acquired party's book value. It is also the specific performance of high premium in the M&A. Therefore, in the measurement of the fair value of the enterprise market generated by huge goodwill in the M&A, it is necessary to determine the fair value of the market based on rationally judgement instead of over-optimistic expectations.

Second, rationally evaluate future cash flow of the acquired company can bring and reasonably determine the discount rate. It is difficult to find the fair value of the assets similar to the acquired company's assets, which means market method in valuation cannot be used. Hence the present value of future cash flow determined by the acquirer naturally become the basis for measuring the goodwill impairment. Therefore, we need to scientifically predict new company's future cash flow, which means calculate the subsequent cash flow according to the relevant information released by the trade association or the growth rate of the listed company's industry statistic like Securities Regulatory Commission's data. And the discount rate should be based on the capital asset pricing model, using Treasury Bond's Interest Rate as the risk-free interest rate, and the data announced by the stock exchange as the  $\beta$  of the industry. The discount rate obtained in this way can reflect the overall risk of the enterprise, which will reduce the possibility of enterprises' earning management. In addition, the likelihood of enterprise making use of the discretionary discount rate to control the results of the goodwill impairment test is also reduced. These methods all works in improving objectivity and comparability.

#### *C. After the M&A - strengthen collaborative integration and risk management*

First, focus on two parties' integration and enhance their synergy. The ability to maximize the synergy of mergers and acquisitions is closely related to the integration after mergers and acquisitions. To do a good job of mergers and acquisitions, the key is to do well in financial integration between two sides. The general direction is strategic integration planning. In detail, we must integrate resources such as the organizational structure, value culture, and talent basis, laying a solid foundation for development, so that the expected benefits of mergers and acquisitions can be better achieved. Therefore, if the original operation mode and management mode of the enterprise are directly applied after the merger and acquisition of the enterprise, the effectiveness of the enterprise integration may be reduced. After the M&A, the enterprise should compare the advantages and disadvantages of each mode, optimize the business mode and management mode of the enterprise, and effectively integrate the two parties on the basis of not harming the interests of the original enterprise.

Second, strengthen the follow-up measurement of goodwill and strengthen the supervision of information disclosure. On one hand, it is recommended that enterprises strengthen the subsequent measurement of goodwill after the mergers and acquisitions, carefully conduct regular impairment test on goodwill and evaluate the impairment risk of goodwill. Once the goodwill is found to be impaired, it should be disclosed to investors in a timely manner. The information related to the impairment of goodwill helps investors to understand relevant information in a timely and accurate manner. On the other hand, we suggest that the China Securities Regulatory Commission, the Ministry of Finance and other government regulatory authorities can further refine and perfect the relevant information disclosure of the subsequent measurement of goodwill based on the existing information disclosure requirements. The specific disclosure information of goodwill should at least include: the specific reasons for the goodwill impairment, the evaluation method for the re-evaluation of the merged enterprise's value, and the confirmation evidence of the critical parameters such as the discount rate of the capital cost. Meanwhile, strict punishment system should be established for those companies that conceal the disclosure of goodwill impairment information or postpone the disclosure.

#### IV. CONCLUSION

We considered the problem of decline in financial performance caused by huge goodwill in the M&A. Based on the analysis of the reasons for the huge amount of goodwill impairment provision, combined with the current capital market case in the mergers and acquisitions in China, we proposed targeted solution and suggestion from three aspects, which will be helpful to those enterprise who suffer from M&A transformation whether in present time or in the future.

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