

Impairment Risk and Prevention Research of Goodwill in Corporate Mergers and Acquisitions -- A Case Study of Broad-Ocean Motor

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Abstract. Since the year 2000, there has been a significant outbreak of impairment of goodwill in listed companies, leading to serious negative impacts on their operations and the real economy. Therefore, this paper employs a case study approach and combines the case of Broad-Ocean Motor's acquisition of Shanghai Edrive in 2016 to explore the reasons for the impairment risk of goodwill in individual cases of listed companies, and to provide corresponding strategies for preventing such impairment. Due to issues such as Broad-Ocean Motor's high valuation and high premium acquisitions, unreasonable valuation of goodwill, Shanghai Edrive 's underperformance in meeting performance commitments, and changes in industry policies, substantial impairment of goodwill occurred. Measures such as determining reasonable acquisition transaction prices, enhancing corporate merger and integration systems, improving disclosure mechanisms for goodwill-related information, increasing external market supervision, and strengthening penalties for violations can be taken to prevent the risk of impairment of goodwill in mergers and acquisitions.

Keywords: Impairment risk and prevention; goodwill; mergers and acquisitions.

1. Introduction

In recent years, many listed companies have chosen mergers and acquisitions as a means to achieve their strategic goals, thereby promoting industrial transformation and upgrading. According to data from the Shanghai Stock Exchange and the Shenzhen Stock Exchange, a total of 2,972 merger and acquisition transactions were disclosed by listed companies in the year 2022 alone. In the process of these restructurings, substantial impairment of goodwill is inevitable. As China's corporate mergers and acquisitions continue to expand, goodwill related to mergers and acquisitions has become a focal point of theoretical research. The subsequent treatment of corporate goodwill and the prevention of impairment risk have become frontier issues in the current economic environment. In the current accounting academic field, much of the research focus on goodwill is centered around the impacts of massive goodwill impairment on companies in different industries, methods of subsequent measurement of goodwill impairment after substantial impairment in various industries, and empirical studies on the causes of goodwill impairment. However, there is limited research on preventive measures for goodwill impairment in individual cases.

This paper adopts a single-case study method, taking Broad-Ocean Motor Co., Ltd. as the case study subject. The paper analyzes the causes of substantial goodwill impairment in enterprises, the impact of goodwill impairment on enterprises, and conducts an analysis of the causes of goodwill impairment after mergers. By identifying and analyzing issues throughout the process from goodwill recognition to impairment, summarizing based on the identified causes, and proposing targeted and constructive measures to prevent goodwill impairment risk, the paper derives conclusions from the case study and seeks new approaches to analyzing and addressing goodwill impairment issues, thereby enriching the research in the field of goodwill impairment in mergers and acquisitions. Many listed companies face the risk of goodwill impairment, and through this research, it is hoped that other enterprises engaging in mergers and acquisitions can gain valuable insights and references to avoid risks associated with goodwill and promote the positive and healthy development of the mergers and acquisitions industry.

2. Formation of Goodwill Impairment at Broad-Ocean Motor

2.1 Introduction of the Merger Parties

2.1.1 Broad-Ocean Motor

Zhongshan Broad-Ocean Motor Co., Ltd., listed on the Shenzhen Stock Exchange in 2008, initially focused on the research and sales of micro-motor products. Due to the limited growth potential and profit space in the traditional electromechanical manufacturing industry to which Micro-Tech Motor belonged, and a disconnect between capital operations, the company's growth was constrained. In response to economic downward pressure, growth market potential, and core competitiveness, Broad-Ocean Motor entered the realm of mergers and acquisitions in 2011, embarking on a path of expansive external growth. The company successively acquired multiple enterprises, including Wuhu Jienorui, Beijing Peterai, and Shanghai Edrive, thus extending its presence from the traditional household appliance industry into the rapidly evolving new energy vehicle industry. From 2011 to 2018, the number of subsidiary companies consolidated into Broad-Ocean Motor's financial statements grew from 15 to 72, and the goodwill assets resulting from acquisitions increased from CNY 93 million to CNY 3.698 billion, nearly a 37-fold growth. Therefore, as of 2017, goodwill assets accounted for 20.73% of total assets, posing a significant risk of substantial goodwill impairment.

2.1.2 Shanghai Edrive

Shanghai Edrive Co., Ltd. is a leading enterprise in the field of new energy vehicle drive motor systems in China, renowned for the stability, reliability, and safety of its products. Being an early entrant in the new energy vehicle drive motor system sector, it possesses strong research, design, and manufacturing capabilities. Given China's challenges in energy scarcity and environmental pollution, the development of new energy vehicles not only addresses these issues but also stimulates the new energy vehicle industry. The government has put forth slogans such as "Lucid waters and lush mountains are invaluable assets" and has introduced fiscal subsidies and other related policies to boost new energy vehicle consumption. Shanghai Edrive operates within the realm of critical components for new energy vehicles, and as the new energy vehicle sector advances and market share increases, it will drive the development of new energy vehicle drive motor systems, thus presenting substantial growth prospects for the company.

2.2 Merger Process

To enhance its position in the new energy vehicle drive motor system industry, bolster its research and development capabilities, and expand its market presence, Broad-Ocean Motor concluded the acquisition of Shanghai Edrive on January 4, 2016, obtaining 100% equity ownership. Through mutual agreement, Broad-Ocean Motor finalized the transaction at a price of CNY 3.5 billion, acquiring 100% equity ownership of Shanghai Edrive through a combination of issuing shares and cash payment. Of the transaction amount, CNY 2.7006725 billion was paid by issuing shares, calculated at a share issuance price of CNY 6.23 per share, resulting in a total of 433,494,777 shares issued. The remaining consideration of CNY 799.3275 million was paid in cash. The acquisition of Shanghai Edrive by Broad-Ocean Motor incurred a total cost of CNY 3.5 billion, which includes CNY 562.5667 million recognizing the fair value share of identifiable net assets on the acquisition date and CNY 2.9374333 billion as goodwill for the remaining differential amount.

2.3 Reasons Behind the Merger

2.3.1 Strategic Goal Achievement

Broad-Ocean Motor has been dedicated to the field of motors and related applications since its establishment. Over the years, it has gained a certain market share in this domain. However, the company aims to expand its scale and enhance its comprehensive strength by venturing into new business sectors. Presently, Broad-Ocean Motor's primary strategic objective revolves around the elevation of the motor and its application industries. It strives to increase its market share in the new

energy vehicle-related industry by bolstering its main competitive abilities. This enhancement is anticipated to yield tangible cash income and elevate the company's reputation. Furthermore, in response to policy initiatives and market opportunities, and considering the strong government support for the development of the new energy vehicle industry, Broad-Ocean Motor is committed to the acquisition of Shanghai Edrive. This transaction aims to form a robust alliance between the two enterprises. The goal is to elevate research and development capabilities, produce highly competitive products to expand market share, and harness the impetus of policy encouragement to foster advancements in the critical components of new energy vehicles and drive the overall development, thereby contributing to the growth of China's new energy vehicle industry.

2.3.2 Synergy Exploitation

Due to the pre-existing involvement of both Broad-Ocean Motor and Shanghai Edrive in the new energy vehicle drive motor system sector, this acquisition activity is poised to further advance their development in this business realm. The aim is to capitalize on synergies in research and development resources, supply chains, production organization, and customer resources. This will result in heightened comprehensive strength in the field of new energy vehicle drive motor systems, thus securing a prominent international position. After the completion of the acquisition, integration of research and development personnel and related resources from both entities will amplify research and development efficiency, augment product competitiveness, and enhance capabilities. In terms of the supply chain, internal production of certain raw materials required by Shanghai Edrive can be achieved, leading to self-sufficiency. Additionally, the expanded scale post-acquisition enables greater negotiation power with suppliers, thereby favorably impacting production cost reduction. In terms of production organization, Broad-Ocean Motor's extensive experience in large-scale production complements Shanghai Edrive's strong research capabilities and superior production processes, enabling the realization of efficient and high-quality manufacturing. Concerning customer resources, there is overlap and diversity in the customer bases of both Broad-Ocean Motor and Shanghai Edrive. Through the acquisition, sharing of customer resources can be achieved, concurrently facilitating resource integration, mitigating competition, and enhancing negotiation power with customers.

3. Causes of Goodwill Impairment at Broad-Ocean Motor

The substantial impairment of goodwill at Broad-Ocean Motor resulted in a shift from profit to loss. Understanding the reasons behind this considerable goodwill impairment is essential for problem identification. Therefore, this chapter will delve into the causes of the extensive recognition of goodwill impairment arising from Broad-Ocean Motor's acquisition of goodwill, focusing on the valuation of goodwill, performance commitments, and industry policies. This analysis will lay the groundwork for proposing preventive measures against substantial goodwill impairment in subsequent sections.

3.1 Unreasonable Goodwill Valuation

The initial recognition amount of acquired goodwill stems from the difference between the purchase price paid on the acquisition date and the fair value of identifiable net assets of the target company. From a valuation perspective: Firstly, there are limitations in the valuation method; secondly, the valuation basis is not sufficiently comprehensive. Additionally, Broad-Ocean Motor's eagerness to transform led to an overestimation of the synergistic effects brought about by the acquisition. Blind optimism in accepting the overvaluation of Shanghai Edrive's asset value resulted in the overestimation of acquired goodwill. Of course, the utilization of performance commitments to overestimate the value of enterprises could also potentially lead to substantial later-stage goodwill impairment.

3.1.1 Limitations in Valuation Approaches

The generation of goodwill originates from the disparity between the transaction price paid by the acquiring company during the acquisition process and the proportionate fair value of identifiable net assets of the target assets on the acquisition date. The determination of the transaction price paid by the acquiring company is generally based on the valuation report issued by an appraisal institution assessing the target assets. Hence, an overvaluation by the appraisal institution during the acquisition can result in higher transaction prices paid by the acquiring company, inflating the value of goodwill associated with the acquired company. This elevation increases the likelihood of future goodwill impairment.

Currently, companies typically engage third-party firms to evaluate the value of target assets using either the asset-based approach or the income-based approach before a merger. In this study, both the asset-based and income-based approaches were employed for the valuation of Shanghai Edrive Co., Ltd. The evaluation was conducted for the entire shareholder equity value on the evaluation reference date. A comparative assessment of the results revealed that, under the asset-based approach, the assessed value of Shanghai Edrive's net asset book value was CNY453.9782 million, with an appreciation rate of 50.41%. Conversely, the income-based approach yielded an assessed value of CNY3.51 billion for Shanghai Edrive's net asset book value, indicating a remarkable appreciation rate of 1062.90%, approximately 7.7 times that of the asset-based approach. Importantly, the assessment report supplemented that the asset-based approach evaluated only individual identifiable tangible and intangible assets, failing to reflect potential integration effects among these assets. In contrast, the income-based approach can better represent the overall profitability of the enterprise's assets. Consequently, based on the results derived from the income-based approach, the acquisition transaction price was determined.

The comparison of results obtained from these two valuation approaches indicates a significantly higher assessed value for Shanghai Edrive under the income-based approach, signifying a higher recognition of acquired goodwill. The appraisal institution explained that the principal reason for this higher valuation under the income-based approach was the promising prospects of the new energy vehicle drive motor system industry that Shanghai Edrive operates in. This industry's potential for value premium, coupled with the income-based approach's consideration of the discounted value of future cash flows, contributes to the higher assessed value under this approach. This value premium translates into goodwill recorded on the balance sheet, and an overestimation of goodwill value increases the likelihood of future impairment risks.

During the evaluation of Shanghai Edrive, the income-based approach suffers from certain limitations in its methodology. Relying on historical data to forecast a company's future profit-generating capabilities renders this approach subjective, and its reliability is susceptible to unforeseeable market changes in the future.

While the industry's market potential appears significant at present, it is also confronted with inherent risks. The sector is significantly influenced by government policies. Although the government currently strongly supports the new energy vehicle industry by offering financial incentives to consumers purchasing new energy vehicles to stimulate consumption and boost sales in this sector, the industry's sales heavily rely on government policies. Any changes in policy could lead to a reduction in consumer demand, subsequently impacting sustained development and profitability. Therefore, the sustainability of Shanghai Edrive's profit levels carries certain risks. Unfortunately, the assessment report for Shanghai Edrive only introduces the evaluation model and formulas of the income-based approach, lacking a specific analytical explanation of potential future earnings and associated risks. Furthermore, the detailed calculation process is not disclosed, rendering the evaluation process questionable. Broad-Ocean Motor's willingness to pay such a substantial premium for the acquisition of Shanghai Edrive reflects its optimistic view of future performance. However, this outlook might have led to an overestimation of the value that Shanghai Edrive can deliver. The valuation under the income-based approach directly contributes to an excessive recognition of

goodwill on the balance sheet, resulting in inflated goodwill. Failure to meet performance indicators could potentially trigger significant goodwill impairment.

3.1.2 Insufficient Basis for Valuation

In the comprehensive valuation of Shanghai Edrive, the evaluation company relied on Shanghai Edrive's net profits attributable to the parent company owner, operating revenue, net profit margin, and net profit attributable to the parent company owner after deducting government subsidies for the years 2013, 2014, and the first three quarters of 2015, prior to the merger. Table 1 presents key financial data and operational performance of Shanghai Edrive before the merger. We can observe from the table that Shanghai Edrive's performance was notably unstable before the acquisition, with its net profits attributable to the parent company owner in 2013, 2014, and the first three quarters of 2015 being CNY3.2528 million, CNY66.7047 million, and CNY32.479 million respectively, demonstrating considerable fluctuations. In the face of such erratic performance, Broad-Ocean Motor proceeded with an acquisition at a premium as high as 1062.9%, despite the inherent volatility. This acquisition at a considerable premium led to an elevated goodwill figure, where the actual performance might not be substantial enough to support such a high level of goodwill. The possibility of overvaluation during the earlier stages of the acquisition thus necessitated provisioning for goodwill impairment in the subsequent period.

Table 1. Key Financial Data of Shanghai Edrive (Unit: RMB '000)

| Year | Net Profit Attributable to Parent Company Owner | Operating Profit | Operating Revenue | Net Profit Attributable to Parent Company Owner after Deducting Government Subsidies |
|----------------|---|------------------|-------------------|--|
| 2013 | 5.28 | -1,984.06 | 205,533.64 | -2,114.34 |
| 2014 | 6,670.47 | 3,558.93 | 60,160.77 | 2,284.38 |
| 2015(First Q3) | 3,247.90 | 1,871.09 | 47,534.83 | 1,381.91 |

A closer examination of Shanghai Edrive's pre-acquisition operating profit reveals that the company faced substantial variations. In 2013, its operating profit was -1,984.06 RMB, whereas it rose significantly to 3,558.93 RMB in 2014. Shanghai Edrive attributes this pronounced increase in 2014 to the improved clarity and enhancement of the new energy vehicle subsidy policy in China. This policy bolstered sales volumes in 2014, reflecting a surge in Shanghai Edrive's operating profit. Notably, this surge was primarily attributed to government support, demonstrating that Shanghai Edrive's sales are sensitive to macroeconomic policy environments. This volatility underscores the susceptibility of Shanghai Edrive's operations to policy changes.

Analyzing the government subsidies received by Shanghai Edrive, it is evident that Shanghai Edrive's rapid expansion heavily relies on government policy support. The net profits attributable to the parent company owner after deducting government subsidies were -2,114.34 RMB, 2,284.38 RMB, and 1,381.91 RMB for the years 2013, 2014, and the first three quarters of 2015 respectively. It is apparent that the government subsidies hold significant weight in Shanghai Edrive's net profit. China's subsidy policy for the new energy vehicle sector adopts a tapering approach, implying that as time progresses, the growth rate of new energy vehicle enterprises' sales or operating revenue would slow down after reaching a peak in 2014 and 2015. Moreover, in the event of a sudden decline in government support for the new energy vehicle sector or the emergence of new development directions in the automotive industry, the sales of new energy vehicle drive systems could experience a decline. However, Shanghai Edrive's forecasts suggest a consistently high growth rate for operating revenue and net profit attributable to the parent company shareholders, at least until 2020. Therefore, it is plausible that the asset evaluation institution overestimated Shanghai Edrive's future performance and net earnings, resulting in an inflated valuation.

On another note, during the process of corporate acquisition, both acquiring and acquired parties typically sign performance commitment agreements. These agreements stipulate the performance indicators that the target assets should achieve over a certain period in the future. Additionally,

acquisition parties may also sign performance compensation agreements. If the target assets fail to meet the performance commitments for the current year, the individual responsible under the compensation agreement must provide compensation to the acquiring company either in cash or through shares. In terms of performance compensation mechanisms, in order to facilitate Broad-Ocean Motor's acquisition, the actual controller of Broad-Ocean Motor, Mr. Chuping Lu, was willing to make a cash compensation commitment. He actively promoted this acquisition, reflecting optimism regarding Shanghai Edrive's future prospects and a belief in its immense potential for future development. This also indicated a confidence that Shanghai Edrive would be able to fulfill the performance commitment requirements. The willingness of the major shareholder of a publicly listed company to offer performance compensation sends a positive signal to the market, demonstrating sufficient confidence in the future operational performance of the target assets. However, there could be a situation of overconfidence on the part of Broad-Ocean Motor's actual controller. Based on an overly optimistic assessment of the target assets, they might have held an excessive positive attitude towards the potential economic benefits from this acquisition. This psychological state might have led to hasty decisions in selecting the target assets for acquisition and expansion. Furthermore, due to the presence of information asymmetry, acquiring parties often cannot access all the information about the target assets, often resulting in an overestimation of the target assets' value and the subsequent formation of higher goodwill, thereby increasing the potential for future goodwill impairment.

3.2 Shortfall in Performance Commitment by Shanghai Edrive

As revealed by the earlier analysis, Shanghai Edrive's profits are largely composed of non-operating gains, akin to government subsidies. The substantial proportion of government subsidies contributes significantly to the overall profit. After excluding non-recurring gains and losses, the net profits attributable to the parent company owner were -2,114.34 RMB, 2,284.38 RMB, and 1,381.91 RMB, respectively. These figures are relatively low, and even negative at times. This indicates that by 2015, Shanghai Edrive was still in a stage where substantial revenue generation remained challenging. As such, there are valid reasons to question whether it could achieve the projected net profit figures stated in the valuation report.

From a performance commitment perspective, according to the asset evaluation report, Shanghai Edrive's projected net profits attributable to the parent company owner from 2015 to 2018 were 9,372.06 RMB, 13,798.24 RMB, 18,879.32 RMB, and 27,680.13 RMB, respectively. To mitigate the acquisition risk, safeguard the interests of Broad-Ocean Motor's existing shareholders, and protect its own interests, Broad-Ocean Motor signed a "Performance Compensation Agreement" with the controlling shareholder of Shanghai Edrive, Mr. Chuping Lu, to supplement the performance-related aspects of the transaction.

As part of the consistent action, Tibet Shengan Energy, Tibet Annada, and Mr. Chuping Lu committed that for the years 2015 to 2018, Shanghai Edrive, after auditing and deducting government subsidies and non-recurring gains and losses, would achieve net profits attributable to the parent company owner of not less than 94 million RMB, 138 million RMB, 189 million RMB, and 277 million RMB, respectively. Broad-Ocean Motor and the entities obligated to provide performance compensation reached a consensus. The compensation period covered four years, including the year of transaction implementation (2015-2018). At the end of each accounting year during the commitment period, Broad-Ocean Motor would engage a qualified accounting firm to conduct an annual audit of Shanghai Edrive. If Shanghai Edrive's actual net profits achieved during the commitment period were less than the stipulated net profits, Tibet Shengan Energy and Tibet Annada, the controlling shareholders of Shanghai Edrive, would be obligated to provide compensation for the shortfall in net profits proportionate to their shareholding.

It is highly likely that Shanghai Edrive's circumstances could not fulfill the predetermined profit targets, and the performance compensation required by the performance commitment would only represent a small portion of losses for Broad-Ocean Motor. Since the impact of Shanghai Edrive's

other shareholders on the company's operations was minimal, and they were unwilling to provide performance compensation commitments, Tibet Shengan Energy and Annada could not cover the risk of not meeting the performance commitment. In order to facilitate the smooth completion of the transaction, Chuping Lu agreed to compensate for the shortfall in net profit during the commitment period on behalf of Shanghai Edrive's other shareholders. The specific compensation proportions are shown in Table 2.

If performance fell short, Shengan Energy and Annada would compensate according to their respective equity proportions, while the compensation obligation of other shareholders would be undertaken by Chuping Lu, the actual controller of Broad-Ocean Motor. This arrangement demonstrates his direct involvement in the performance commitment.

Table 2. Calculation Formula for Cash Compensation by Entities with Compensation Obligations

| Responsible Entity | Annual Cash Compensation Amount |
|----------------------|--|
| Tibet Shengan Energy | $(\text{Promised Net Profit for the Year} - \text{Actual Net Profit for the Year}) \times 35.28\%$ |
| Tibet Annada | $(\text{Promised Net Profit for the Year} - \text{Actual Net Profit for the Year}) \times 11.34\%$ |
| Chuping Lu | $(\text{Promised Net Profit for the Year} - \text{Actual Net Profit for the Year}) \times 53.38\%$ |

Data Source: Broad-Ocean Motor's Periodic Report Compilation

According to the audit report, Shanghai Edrive only achieved the performance commitment for the year 2015. However, its performance after the acquisition fell significantly short of expectations, with all the performance commitments for the years 2016 to 2018 going unfulfilled. In fact, in 2018, Shanghai Edrive's net profit was negative, indicating substantial losses.

The entities responsible for executing performance compensation would need to compensate a maximum of 698 million RMB. Compared to the costs incurred by the enterprise at that time, this amount was relatively minimal. Moreover, Shanghai Edrive had already reaped substantial profits at the time of acquisition. Therefore, these payouts were insignificant. From the perspective of Tibet Shengan Energy and Tibet Annada, during the acquisition process, they collectively received nearly 400 million RMB in cash and 200 million shares. By 2019, they had already gained 155 million RMB in cash solely through reductions in their holdings. This figure is roughly three times the performance commitment compensation they needed to pay. While the potential transfer of interests to major shareholders could be a matter of contention, the high-performance commitment indeed implies a certain line of thought on the part of the promisors.

Although high-performance commitments can instill some confidence in investors and stakeholders, facilitating the smooth progress of acquisitions, the true value of an enterprise cannot be perpetually concealed behind substantial goodwill. The high premium supported by lofty performance commitments still carries the risk of significant goodwill impairment.

3.3 Industry Policy Changes

In recent years, China has been actively supporting the development of the new energy vehicle industry. To promote this industry's growth and stimulate consumption, the government has introduced supportive policies. These policies not only drive the development of the new energy vehicle sector but also propel the growth of critical components industries related to manufacturing new energy vehicles. Shanghai Edrive primarily engages in the research, development, and manufacturing of electric motor systems for new energy vehicles. Operating within the early stages of the electric motor system industry, there are no comparable or similar publicly listed companies in China. Consequently, the competitive landscape in this sector is relatively small, and the sales of Shanghai Edrive's new energy vehicle drive motor systems are significantly influenced by the market conditions of the new energy vehicle industry.

As early as 2010, the new energy vehicle industry received support from relevant national industrial policies and was recognized as a strategic emerging industry. To boost the development of the new energy vehicle market, central and local governments began introducing fiscal subsidy

policies for new energy vehicles from 2013 onwards. This led to rapid growth in new energy vehicle sales from 2014 to 2015. However, in 2016, cases of fraudulent subsidy claims surfaced in the new energy vehicle industry. In response, the government initiated a regulatory overhaul in 2016, revising the subsidy policies. Consequently, the growth rate of new energy vehicle sales slowed significantly in 2016. The government rectified and adjusted policies related to the new energy vehicle industry, reducing subsidies, cracking down on fraudulent subsidy claims, and implementing stricter standards and regulations for industry access and penalties. The unclear subsidy policies affected the growth rate of new energy vehicle sales, causing a slight decline in Shanghai Edrive's operational performance from the projected expectations at the time of the acquisition. This resulted in the inability to fulfill performance commitments and the recognition of 7.3082 million RMB in goodwill impairment provision.

Between 2016 and 2018, Shanghai Edrive's performance was influenced by a series of policy changes in China's new energy vehicle industry. In 2016 and 2017, subsidies for new energy vehicles were reduced by 40%, significantly reducing the subsidies for these vehicles. The implementation of new subsidy policies in 2017 led to a further decrease in the subsidy amounts for new energy vehicles. This had an adverse effect on the sales of Shanghai Edrive's main products. Notably, the plug-in hybrid commercial vehicle drive system, which had a higher gross profit margin, saw a substantial 26.60% year-on-year decrease in sales. As a result, Shanghai Edrive's performance completion rate for 2017 was only 67.04%, and the performance commitments were not met.

In 2018, the new energy vehicle industry's subsidies were accelerated for reduction. This influenced Shanghai Edrive to repeatedly lower the prices of its product series. Particularly, the commercial vehicle product series experienced a significant decline in gross profit margins, significantly impacting the company's profitability. Additionally, due to the new energy vehicle industry's emphasis on research and development and constant performance improvement, product iterations occurred rapidly, resulting in low utilization rates of Shanghai Edrive's related inventory. This necessitated the recognition of substantial provisions for inventory depreciation, further lowering Shanghai Edrive's performance. As a consequence, Shanghai Edrive incurred a loss of 160.2101 million RMB in the fiscal year of 2018. Shanghai Edrive's post-acquisition performance was influenced by changes in industry policies, causing its net profit level to fall far short of the initial expectations during the acquisition. Consequently, Broad-Ocean Motor recognized impairment provisions for the goodwill generated by the acquisition.

Changes in China's policies related to new energy vehicles indicate a gradual transition from policy-driven to market-driven development of the new energy vehicle market. Subsidy reductions have placed immense pressure on industries related to new energy vehicles, resulting in a reshuffling of related sectors.

4. Measures to Prevent Goodwill Impairment Risk

4.1 Reasonable Determination of M&A Transaction Price

During corporate mergers and acquisitions, asymmetric information can lead to false valuations provided by the target company, resulting in the acquirer facing the risk of goodwill impairment. Hence, companies should carefully assess the assets of the target company when engaging in M&A activities. This case serves as a reminder to other listed companies that the initial recognition amount of goodwill directly influences subsequent goodwill measurement and treatment. Acquirers should understand the financial and operational status, business structure, developmental prospects of the target, potential synergies, profitability levels, and future trends within the industry. After making the M&A decision, companies should select a capable investigation agency to conduct thorough due diligence on the target, ensuring the objectivity and accuracy of the assessment results. Based on the assessment, the acquirer should determine an appropriate M&A price. This helps mitigate uncertainties in future operations and reduces the risk of goodwill impairment.

4.2 Enhance Corporate Integration System

Signing an M&A agreement and completing the transaction does not signify the successful completion of the M&A process; post-acquisition business integration is key to evaluating M&A effectiveness. While M&A activities enable rapid asset expansion and an initial boost in net profit, many companies experience a decline in operational performance in the years following acquisitions, failing to meet expectations. Coupled with high performance commitments set before the M&A, unfulfilled commitments necessitate the recognition of goodwill impairment, further exacerbating operational performance deterioration. This is often due to inadequate post-acquisition resource integration and synergy realization.

In cross-industry cases like the merger between Broad-Ocean Motor and Shanghai Edrive, acquirers need to go beyond necessary due diligence and formulate resource integration plans tailored to both parties' development. Ensuring true resource complementarity, seizing development opportunities, breaking through bottlenecks, and fully leveraging synergies are crucial. While the merger between Broad-Ocean Motor and Shanghai Edrive should have resulted in a powerful alliance, post-acquisition challenges, such as government policy changes affecting product sales, hindered Shanghai Edrive's performance. Three consecutive years of unmet performance commitments led to substantial goodwill impairment provisions, impacting overall performance. Therefore, post-acquisition integration system enhancement is essential for ensuring sustainable development and profitability, while also reducing future goodwill impairment risks.

Broad-Ocean Motor's self-assessment before the merger lacked comprehensive analysis of its post-acquisition integration capabilities, management abilities, etc., resulting in difficulties in aspects like financial system and corporate culture integration. Although Broad-Ocean Motor aligned Shanghai Edrive's accounting policies with the parent company's and opened its financial system to Shanghai Edrive post-acquisition, no concrete integration plan was established for the target's financial structure, functions, and management systems. This restricted financial management capabilities and increased the risk of capital usage costs. Additionally, the lack of interaction and communication between Broad-Ocean Motor and Shanghai Edrive led to cultural conflicts between private and state-owned enterprises, hindering the absorption of each other's corporate culture essence. To address this, pre-acquisition evaluations should assess post-acquisition integration capabilities, management intensity, cultural infusion, and fusion capabilities to ensure comprehensive assessment.

4.3 Enhance Goodwill-Related Disclosure System

Enhancing the disclosure system related to goodwill can somewhat restrain irrational M&A and goodwill impairment behavior. A significant portion of the excessive goodwill in the current market is due to information asymmetry and inadequate disclosure of the true operational status of M&A parties. This leads to overly optimistic expectations during acquisitions, resulting in high-premium acquisitions, and exacerbating goodwill impairment risks. Therefore, M&A parties should fully disclose their financial information, M&A transaction purposes, and information closely related to transaction pricing. Additionally, when the valuation of the target assets significantly exceeds that of similar companies, further detailed disclosure should be required, explaining the reasons for the high valuation. Regulatory authorities should also assess its reasonableness. Given the subjectivity of goodwill impairment, internal stakeholders might manipulate it to their advantage, potentially delaying necessary impairment provisions, leading to more impairments later. In the absence of fully comprehensive regulatory systems in China's capital market, rational acquirers may capitalize on overvalued target assets for arbitrage, leaving goodwill impairment risks when poor post-acquisition performance fails to sustain such high goodwill. Consequently, an explicit criterion should require the disclosure of the timing, specific reasons, and basis for the confirmation of goodwill impairment, presented in the financial reports. By further standardizing goodwill-related disclosure, regulatory control over goodwill impairment can be strengthened.

4.4 Strengthen External Market Supervision and Enforcement

Capital markets witness instances where acquirers' controlling shareholders misuse their powers to transfer benefits to affiliates through overpriced acquisitions. Due to dispersed equity ownership, small shareholders lack a voice during M&A transactions, and their interests can be compromised in the event of investment failure. Despite regulatory oversight, there remain loopholes indicating inadequate external supervision.

In general, M&A aims to gain a larger market share, enhance comprehensive capabilities, but not all M&A activities are rational. High valuation and premium acquisitions might occur with profit motives, overestimating corporate value and inflating stock prices. High selling in stock markets for profits post-acquisition harms small shareholders' interests and disrupts market stability. Therefore, securities market regulators must diligently discern the true objectives of listed company M&A. Emphasis should be on acquisitions with high valuations and premiums.

On one hand, regulatory authorities should increase supervision over the target asset valuation process, scrutinizing assessment methods and bases. They could also consider limiting the premium range for high-premium acquisitions based on the company's size and industry. This would help restrain the size of goodwill formed due to high-premium acquisitions. On the other hand, regulatory agencies should enhance scrutiny of high performance commitments, verifying the target's profit situation, assessing its ability to meet performance commitments, and whether the commitments are excessive. Encouraging staggered payment of transaction prices based on performance commitment fulfillment rather than one-time payment could reduce goodwill impairment risks and effectively constrain the target company.

5. Conclusion

In recent years, listed companies have widely adopted mergers and acquisitions (M&A) as a means to enhance their economic value and maximize profits. Throughout the M&A process, acquired companies often accumulate substantial goodwill, which subsequently leads to the formation of goodwill impairment risks, significantly impacting corporate performance. During M&A activities, listed companies must adhere to market value principles by employing rational valuation, utilizing distributed acquisition approaches, enhancing synergies in M&A, and refining corporate governance mechanisms. These measures collectively reduce the risk of goodwill impairment resulting from overvaluation of goodwill in M&A transactions.

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