Financial Engineering and Risk Management (2023)
Clausius Scientific Press, Canada
DOI: 10.23977/ferm.2023.060403
ISSN 2523-2576 Vol. 6 Num. 4

Research on the Causes of Goodwill Impairment Risk and Preventive Measures for Listed Companies-Taking Blue Sail Medical Co., Ltd. as an Example

Zhongfang Tian*

College of Economics and Management, Tianjin University of Science and Technology, Tianjin, 300450, China
**Corresponding author*

Keywords: M&As; goodwill impairment risk; medical devices

Abstract: In recent years, listed companies in China have created significant amounts of goodwill through mergers and acquisitions, which has resulted in a significant number of "mines" of goodwill in the A-share market. This has caused several issues, including a sharp decline in the performance of listed companies and turbulence in the stock market. Owing to the interdisciplinary nature of the medical device sector and the high entry hurdles for mid-to-high-end devices, many businesses opt to enter the market through mergers and acquisitions to increase their market share. Based on this, this paper examines Blue Sail Medical Co., Ltd. case from the perspectives of goodwill generation, subsequent measurement, and reasons for impairment, and proposes several useful countermeasures and recommendations to effectively reduce the negative effects of goodwill impairment in the medical device industry, to serve as a reference for businesses with issues before, during, and after M&A, and to offer more protection and warning to investors in the process.

1. Introduction

A-share listed firms have begun a wave of significant mergers and acquisitions since 2014 as a result of the country's introduction of several eased corporate mergers and acquisitions policies. The overall value of goodwill in China's capital market has expanded quickly, from CNY 333.2 billion in 2013 to a volume of CNY 1.20 trillion by the end of 2021, according to incomplete statistics. Furthermore significantly rising from CNY 2,695 million in 2013 to CNY 131.2 billion by the end of 2021 is the amount of goodwill impairment. The growing scope of M&A goodwill and impairment will have detrimental effects on listed firms, capital markets, and investors in general, including harming business interests, impairing market stability, and causing investment losses.

According to the industry, there have been a lot of mergers and acquisitions (M&A) involving the medical sector in recent years, most of which were undertaken by pharmaceutical businesses to satisfy their development needs by expanding, modernizing, and upgrading through M&A[1]. The amount of goodwill impairment in the medical device business has been on the rise recently, increasing quickly and peaking in 2018, while it began to increase quickly in 2020 at the level of 2019, and it is still at a high level. In the medical device sector, goodwill impairment as a share of total assets has almost doubled from 1.26% in 2016 to 2.87% in 2020.

2. Analysis of M&A cases

2.1 Basic information about the merging parties

Acquirer—Blue Sail Medical Co., Ltd. was founded in 2002 and specializes in the manufacturing and distribution of PVC, nitrile, and latex gloves as well as other low- and medium-value consumer goods. The company's production of health protection gloves accounts for 22% of the global market share, and its production scale and market share are among the highest in the world. In 2010, the company was listed on the Shenzhen Stock Exchange, making it the first listed company in the domestic PVC gloves industry. With a sales network that previously encompassed more than 2,300 hospitals and the most extensively utilized cardiac stent products in China's hospitals, Blue Sail's business in cardiac interventional devices also evolved more quickly after the acquisition of Biosensor International Group Ltd.

Acquired Party—A Singaporean medical device firm, Biosensor International Group Ltd., is primarily involved in the research, production, and marketing of cardiac stents and is ranked fourth globally in this sector. They are CBCH II and CBCH V, the parent corporations. Beijing CITIC is the sole owner of CBCH V, which specializes in managing investments and making equity investments. By indirect ownership, CBCH V also indirectly owns a 30.76% stake in CBCH II. One of the three largest producers of cardiac stents in China, Jiwei Medical, a wholly-owned subsidiary of Biosensor International, has a product market that spans approximately 100 nations and has a large client base.

Biosensor International Group Ltd. mostly conducts business with other businesses; as a result, its downstream clients are dispersed, its sales costs are high, and its profit margin is constrained. By M&A, the two parties want to share resources and create a reasonably extensive sales network. In addition, Biosensor International Group can gain synergy with Blue Sail's local manufacturing base to further lower production costs by moving its production and R&D operations to China through M&A.

2.2 M&A process

A cross-border merger and acquisition took place when Blue Sail Medical purchased Biosensor International. The "two-step process" is used to accomplish the complicated operation.

Step 1: In 2017, Blue Sail Investment, the majority shareholder of Blue Sail Medical, assumed control of CBCH II, the parent company of Biosensor International's foreign holding company, and bought 30.98% of the firm's shares.

Step 2: In 2018, Blue Sail Medical acquired 30.76% of the shares of CBCH II indirectly held by Beijing CITIC through the issuance of shares, and purchased 62.61% of the shares of CBCH II from 17 investors, including Blue Sail Investment, using a mix of stock payment and cash payment.

2.3 Recognition of goodwill

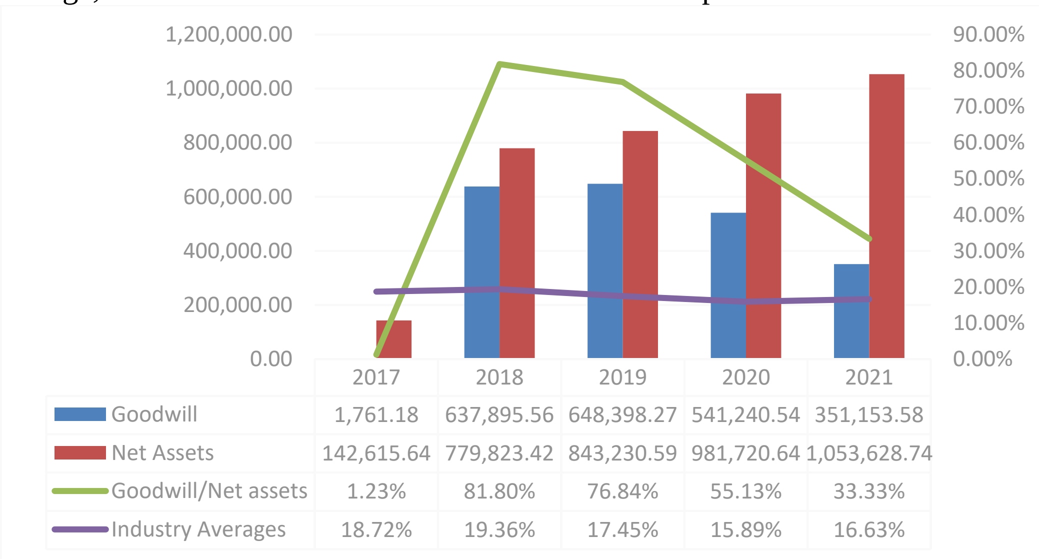
Table 1 shows the formation of goodwill for Blue Sail Medical, via the issuing of shares and cash payments during the merger process, Blue Sail Medical acquired and ultimately held a combined 93.37% of CBCH II's shares, both directly and indirectly. A total consolidated cost of CNY 5,895,273,425.94 was obtained by including CNY 1,908,957,490.45 in cash and subtracting the fair value share of identifiable net assets acquired, which came to CNY 52,405,916.29, to arrive at the fair value of the equity securities issued, which was CNY 3,986,315,935.49. This left an initially recorded value of goodwill of CNY 5,842, 867,509.65.

Table 1: Blue Sail Medical goodwill formation.

Unit: CNY yuan

Consolidation Costs	Biosensor International
Cash	1,908,957,490.45
Equity securities issued	3,986,315,935.49
Total Consolidated Cost	5,895,273,425.94
Less: Share of the fair value of identifiable net assets acquired	52,405,916.29
Goodwill/The difference between the cost of consolidation and the share of the fair value of the acquiree's identifiable net assets acquired in a merger	5,842,867,509.65

Figure 1 depicts Blue Sail Medical's goodwill to net assets ratio in comparison to the sector average. Before the M&A, Blue Sail Medical's goodwill to net assets ratio was significantly lower than the industry average. After the M&A, the ratio suddenly became heavier and higher than in the same industry. Although there will be a decrease in 2020, it will still be significantly higher than the industry average, which increases Blue Sail Medical's risk of impairment.



Unit: CNY million

Figure 1: Goodwill/Net Assets Trend of Blue Sail Medical and Industry Average from 2017-2021.

2.4 Impairment of goodwill

According to the criteria of the standard, Blue Sail Medical started conducting periodic impairment tests on this asset group portfolio in 2018. After Blue Sail Medical acquired CBCH II and CBCH V, a particular evaluation was carried out on the asset group portfolio of the cardiovascular and cerebrovascular business where the goodwill was contained. According to the "Profit Forecast Compensation Agreement" signed by Beijing CITIC, management shareholders, Blue Sail Medical, and Blue Sail Investment, the latter gave CBCH II performance commitments for the following three years, specifically for net profits of not less than CNY 380 million, CNY 450 million, and CNY 540 million for each year, respectively.

At the end of 2018 and 2019, respectively, Blue Sail Medical performed impairment tests on each asset group related to goodwill. The tests involved calculating goodwill including minority interests, adjusting the carrying value by comparison after adjustment, comparing recoverable amounts to determine impairment, and finding no impairment.

Table 2: Completion of M&A restructuring performance commitments at the time of formation of goodwill by Blue Sail Medical.

Unit: CNY million

Project/Year	2018	2019	2020
Amount of performance commitment (net profit)	38,000.00	4,5000.00	54,000.00
Actual Completion	39,024.17	46,192.89	33,994.47

Blue Sail Medical, as indicated in Table 2, met the performance commitment goals for both 2018 and 2019, and no impairment was found following the enterprise's annual periodic impairment test. At a realization rate of almost 63%, the amount of net profit realized by CBCH II in 2020 was CNY 339,944,700, falling short of the committed net profit for the year. As of December 31, 2020, CBCH II, the subject of the major asset restructuring, had a cumulative net profit of CNY 1,192,115,300 and an approximate 87% realization rate. In its 2020 annual report and its 2021 annual report, Blue Sail Medical disclosed a goodwill impairment of CNY 1,750,306,800 and CNY 1,698,449,800, respectively. The details about the above are shown in Table 3.

Table 3: Completion Provision for impairment of goodwill of Blue Sail Medical.

Unit: CNY million

Years Provision for impairment of goodwill	Increase for the period	Closing balance
2019	0	0
2020	175,503.68	175,503.68
2021	169,844.98	345,348.66

3. Analysis of the causes of goodwill impairment of Blue Sail Medical

3.1 Recognition and measurement of goodwill impairment

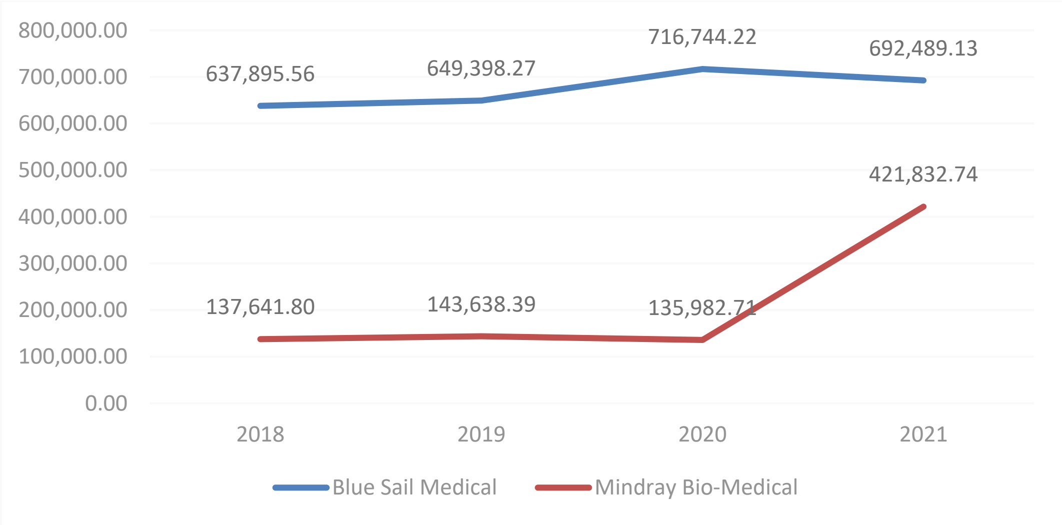
3.1.1 Delay in the timing of goodwill impairment

The macro-environment, industry environment, current operating conditions, and future operating plans of the asset group or combination of asset groups where the goodwill is located have not received enough consideration from Blue Sail Medical in recent years, let alone making a sound assessment of whether there are indications of goodwill impairment[2]. Moreover, it neglected to perform impairment testing as soon as certain goodwill impairment indicators surfaced. Blue Sail Medical was forced to conduct routine impairment tests only at year's end when it became clear that preventive and control measures for the epidemic were improperly implemented in foreign nations. The New Crown Pneumonia epidemic first surfaced in late 2019 and spread globally in the first half of 2020.

Also, the General Office of the State Council released the "governance of high-value medical supplies reform program" in July 2019. It is obvious that this document ties procurement to the policy direction of high-value supplies. As Blue Sail Medical recently acquired the cardiac interventional device business, there has been a significant change in external circumstances. Blue Sail Medical should promptly disclose any potential future performance that falls short of expectations to investors in the regular financial reports. In addition, the outbreak during 2020 drove up sales of the parent company's primary line of business—PVC gloves—and Blue Sail Medical raked in substantial profits from the gloves industry throughout the year. There has been a delay in the accrual of goodwill impairment as a result of the impact of the new crown pneumonia epidemic and the pressure from volume purchasing combined. Blue Sail Medical had a full year to carry out its required goodwill impairment test but postponed it until the end of the year for full accrual.

3.1.2 High-premium mergers and acquisitions form a huge amount of goodwill

The act of creating goodwill should be seen as the primary factor in goodwill deterioration. Blue Sail Medical was acquired through an M&A procedure at a high price, which generated a tremendous amount of goodwill. It is not unusual for mergers and acquisitions to be completed in the medical device sector at a premium due to a favorable assessment of the future performance of the acquired firm, but it is unusual for a single M&A transaction to generate such a significant amount of goodwill [3].



Unit: CNY million

Figure 2: Goodwill of some leading companies in the medical device industry in recent years

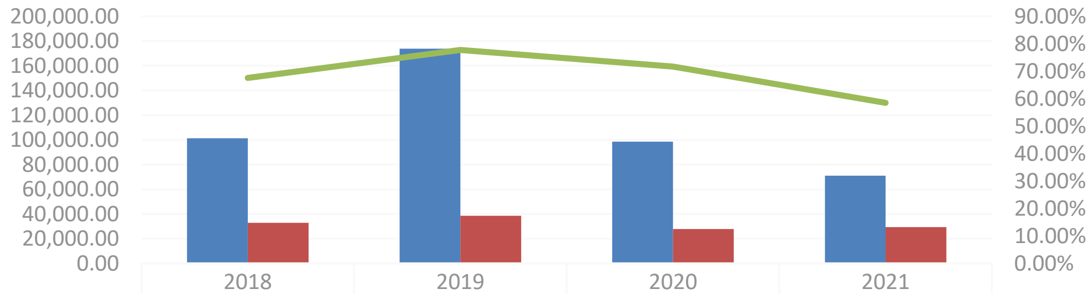
Figure 2 displays the recent reputation of some of the top businesses in the medical device sector. Many of the high-goodwill M&A companies that are more common, like Mindray Bio-Medical, have not produced as significant quantities of goodwill. The very high expectations for the performance of the acquired firms are partly to blame for the significant quantity of goodwill that Blue Sail Medical generated. The valuation of the underlying companies will be significantly impacted whenever the companies' performance is no longer consistently good during the development process, and the amount of impairment will be very large. It is reasonable to assume that the high level of goodwill raises the risk of potential goodwill impairment in the future. As a result, when engaging in M&A operations, businesses should not only consider the present but also the future, performing the transaction at a more affordable M&A price.

3.2 Goodwill impairment risk

3.2.1 Volume purchasing makes it difficult to meet high-performance M&A commitments

The "National Organization of Coronary Stents Centralized Volume Procurement Document," which was published in October 2020 by the Chinese government and the High-Value Medical Consumables Joint Procurement Office, made it official that the volume procurement would have an impact on the medical device industry. According to the document, this quantity purchase is driven by price and favors goods with cheaper quotations. Bulk buying for the medical sector is a form of follow-the-group buying done on behalf of the government as a promise to cut prices at the point of sale through collocation. To win the auction, businesses must cut their gross margins, pick cheaper prices for thin profit, and eventually benefit the public.

Undoubtedly, this is a blessing in disguise for Blue Sail Medical, which recently merged with Biosensor International. Volume buying has reduced the winning bid price of goods that could previously be sold for CNY 10,000 to a few hundred yuan. Since the prior drug collection was put into place, there will be intense pressure on medical device producers and operators to make quick adjustments in the face of changes in gross margins that have been driven to even lower levels. Although Blue Sail Medical's EXCROSSAL™, which got 110% of the bid volume, was selected as the winning bid at CNY 469 in the aforementioned batch of volume procurement and was shortlisted and ranked first. Even Nevertheless, the final cost of cardiac stents increased. Although the final cost of cardiac stents was significantly reduced, it is still expected that the company's operational income, gross margin, and net profit will be adversely impacted shortly.



	2018	2019	2020	2021
Revenue	101,273.30	173,733.61	98,606.10	70,982.38
Cost	32,856.85	38,634.70	27,888.65	29,458.18
Gross margin	67.56%	77.76%	71.72%	58.50%

Unit: CNY million

Figure 3: Blue Sail Medical Cardiac Interventional Devices Revenue 2018-2021

Figure 3 demonstrates how well Blue Sail Medical's cardiac interventional devices have been performing financially since 2018, and by 2019 the gross margin reached a high of 77.76%. The revenue fell from 17 trillion yuan in 2019 to 7 trillion yuan in 2021 due to the epidemic and volume procurement, and the gross margin of cardiac interventional devices fell by 19% in 2021 compared to 2019 despite the company taking the necessary steps to manage costs and other factors.

3.2.2 Blue Sail Medical M&A synergies not in place

The core goodwill idea states that the management, operational, and financial synergies between the two parties following an M&A are a portion of the core goodwill. The following three examples show that Blue Sail Medical has not benefited from M&A synergy due to a lack of understanding or attention to this notion.

1) The management synergy is not in place

In terms of trend analysis, Blue Sail Medical's total asset turnover ratio has demonstrated a declining tendency both in the year of the acquisition and the year after the acquisition. While intangible assets and fixed assets have not expanded much, and operating revenue growth has not kept pace with the rate of asset growth, the significant decrease in 2018 is mostly attributable to the fast increase in goodwill in non-current assets. Since the M&A, the current asset turnover ratio has also been declining, mostly as a result of the M&A's considerable expansion in currency funds and accounts receivable. After 2018, the turnover ratios for inventory and accounts receivable also significantly decreased. The operating capacity of Blue Sail Medical has been impacted by the M&A, and the asset management synergies that have been introduced to Blue Sail Medical are not considerable, according to a thorough review of these indicators. Trends in Blue Sail Medical's asset management metrics are shown in Figure 4.

Figure 4: 2017-2021 Blue Sail Medical Asset Management Metrics Trend

2) The operational synergy is not in place

Before and after the merger, there was no apparent quick growth period for Blue Sail Medical's sales gross margin or sales net margin, and the 2020 growth rate only marginally accelerated because of the epidemic-related increase in demand for medical products. Additionally, the horizontal comparison of the gross and net sales margins reveals that the difference between the two gradually widened. This is because the company's expenses after the merger grew more quickly, creating a bigger problem for costs and expenses, which is not helpful for the expansion of Blue Sail Medical's profitability.

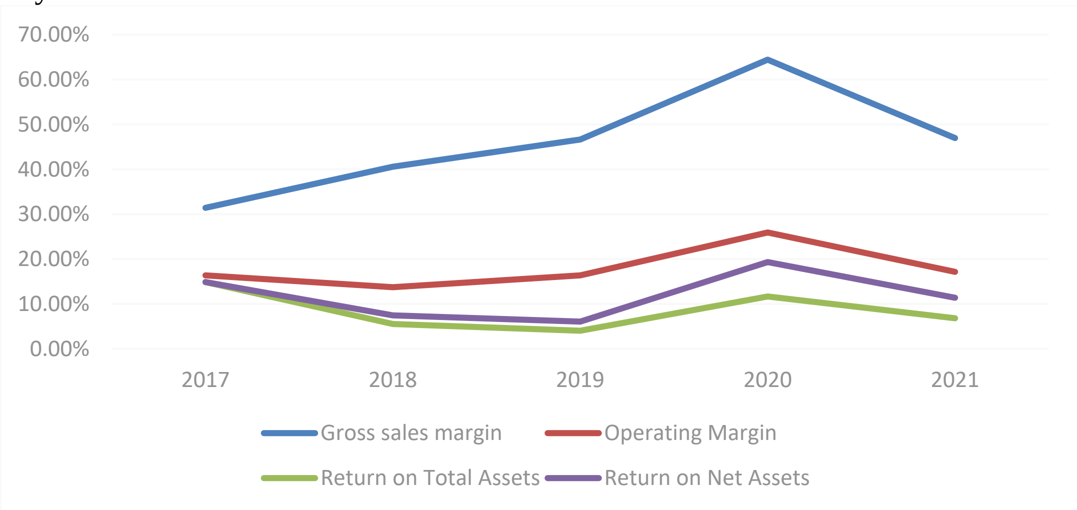


Figure 5: 2017-2021 Blue Sail Medical Profitability Indicators Trend

Following the M&A, Blue Sail Medical's return on total assets and return on net assets are both generally declining. As shown in Figure 5, in 2018, the returns on total assets and net assets were 5.53% and 7.44%, respectively. These figures were down by more than half from the corresponding figures in 2017 and only started to rise in 2020 as a result of the effects of the new crown epidemic on the state of the sector. Also, the operating risk has increased and the difference between return on total assets and the return on net assets is increasing, indicating that this M&A activity did indeed reduce Blue Sail Medical's profitability.

3) The financial synergy is not in place

Since we began planning for the M&A in 2017, Blue Sail Medical's current ratio has been falling. The fall from 2017 to 2018 was very large, primarily because of the M&A's major impact on Blue Sail Medical's quick rise in interest-bearing liabilities. The fact that 2019 is still in a downward trend and will only see an increase in 2020 shows that the current ratio has not long-term improved since the M&A. Since the M&A, the current ratio has not long-term improved. The specific indicator trends are shown in Figure 6.

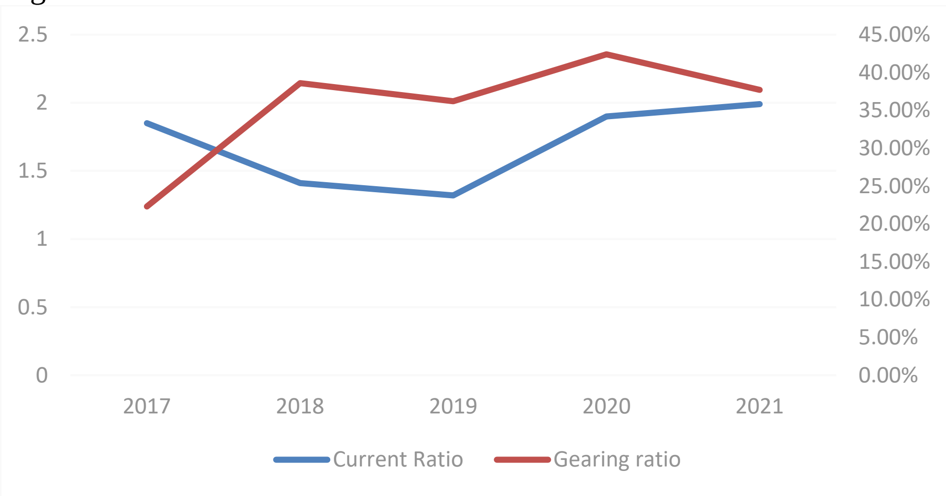


Figure 6: 2017-2021 Blue Sail Medical Short-term Solvency Indicators Trend Chart

Also, Blue Sail Medical's gearing ratio was low before the M&A, suggesting that the company's long-term solvency was at this time reasonably solid. However, following the M&A, the gearing ratio considerably increased, rising by 70% from 2017 to 2018 over the previous year. The liabilities resulting from the Biosensor International merger and the significant amount of long-term liabilities borrowed without planning for the M&A event are both contributing factors. The gearing of Blue Sail Medical was severely harmed by the transaction. In the years following the M&A, the gearing ratio stays high with some long-term debt payment risk.

4. Blue Sail Medical goodwill impairment risk prevention measures

4.1 Reference Text and Citations

When deciding to conduct a merger and acquisition, businesses must be fully prepared. To achieve the goal of being able to determine the value of the target company, they should exercise due diligence rather than rushing into the M&A valuation of the target company. They should judge the information of the subject company, reduce the concealment of the subject company, and analyze the risks [4]. After completing the preparatory work, it can more accurately determine the valuation-related characteristics and clarify the indicators' values. While making M&A choices, M&A firms must carefully analyze the M&A consideration and the amount of initial recognition of accrued goodwill. They should try to minimize the M&A risks, such as the risk of goodwill impairment, to keep them within acceptable bounds. They shouldn't be too optimistic or cautious about the subject company's potential future value.

Listed firms can lessen the risk of goodwill impairment by making purchases gradually. Companies can decrease the number of acquisition scenarios involving unreasonably high premiums because the standard specifies that subsequent acquisitions by companies with control already in place can be regarded as minority interest purchases that do not result in the buildup of goodwill.

4.2 Improving the binding effect of performance commitment clauses

Performance commitment agreements are a type of commitment between the two parties in the M&A process and are a guarantee of future earning capacity. In M&A, firms seek to purchase at a high premium exactly because they value the future earning potential of the acquired company. Although performance commitment agreements are initially intended to protect the rights and interests of the M&A firms, as more and more M&A events take place, there is a risk that firms will ignore the operating risks of the M&A firm during the future performance commitment period and count the targets set by the performance commitment in the M&A premium.

As a result, businesses shouldn't rely too heavily on compensation and performance-based agreements, and they shouldn't neglect corporate governance. The consequence of unfulfilled performance pledges is experienced by the majority of China's publicly traded medical equipment companies. As a result, it is essential that performance promises be fair from the start and cannot be intrinsically dangerous. Given that the medical device industry is subject to numerous restrictions and changes in national policies, it is unreasonable to agree on a performance commitment with a term that is too long. A workable approach is to limit the performance commitment to a range while also imposing restrictions on the timing of the performance commitment. To encourage the management and staff of the acquired companies to perform better, M&A corporations might simultaneously set graded penalties based on their completion and substantial rewards for high-level goals.

4.3 Reasonable determination of indicators of goodwill impairment and timely impairment testing

Companies shall conduct an impairment test for goodwill resulting from a business combination at least at the end of each year, according to ASBE No. 8 - Impairment of Assets. The accounting standard establishes a lower limit, which indicates that businesses must conduct an impairment test at least once annually; however, the number of tests should be up to the business. Businesses shouldn't just do one impairment test at the end of the year to comply with accounting standards. Investors would act more responsibly if they conducted an impairment test at each location where it could be determined whether or not there was goodwill impairment [5]. You cannot ignore the indications of goodwill impairment and merely complete the usual impairment of goodwill procedure once at the end of the year.

Also, the business must react appropriately and perform the necessary goodwill impairment test in the event of a significant shift in the industry in which it operates as a whole. Since the medical device industry has experienced significant pressure from all directions recently, companies are now required to explain to investors and the market whether goodwill is impaired. By doing so, they can shorten the lag time for goodwill impairment and effectively lessen the impact of goodwill impairment due to the year-end lump sum charge.

4.4 Strengthen the synergy effect of M&A

The operating synergy impact should be strengthened first. Following the completion of the M&A, the M&A companies should fully integrate their resources to: achieve economies of scale, lower costs, and improve company profitability; realize complementary advantages, share R&D achievements, improve overall research capability, optimize product structure, and enhance the economic added value of products; improve industry concentration, achieve a certain level of a monopoly position, and realize excess value; and finally, realize excess value. Second, enhance the synergy impact in management[6]. After the merger and acquisition, businesses should increase management effectiveness, integrate the assets of both parties, lower management expenses, and produce more.

Last but not least, enhance the financial synergy effect. Combining and acquiring businesses can boost their investment projects, improving capital returns and realizing the asset combination effect. They can also fully utilize their losses, realizing tax relief to fulfill their goal of tax avoidance and realizing the tax shield effect.

5. Conclusions

This study examines the goodwill impairment cases of publicly traded companies in the medical device sector and selects Blue Sail Medical as a representative case company. It examines Blue Sail Medical's M&A situation and goodwill impairment as well as the causes of its goodwill impairment in-depth. Blue Sail Medical owns the contents of the mid-to-high-end and low-value consumables sections, which have serious goodwill impairment. Lastly, we suggest defenses for the medical device sector to stop goodwill impairment from happening.

From this research, the following conclusions are drawn:

First, the combined impact of the companies internal and external environments is primarily responsible for the impairment of the goodwill of listed companies in the medical device sector. The new crown epidemic and national policies, such as volume purchasing, are the key external drivers; the corporations' internal influencing elements include large M&A premiums, a desire to grow, excessively aggressive M&A performance commitments, and a lack of synergy.

Second, the medical device industry's impairment of goodwill is primarily caused by the formation of significant amounts of goodwill as a result of high-priced mergers and acquisitions; the implementation of the volume procurement affects Biosensor International's operating performance because it is challenging to fulfill the high-performance M&A commitments; the timing of the goodwill impairment is delayed, etc.

References

[1] Song Jianbo, Zhang Haiqing. Exploration of the subsequent measurement method of goodwill: Expectation-oriented or economic consequence-oriented [J]. Finance and Accounting Monthly, 2019(03):3-8+178.

[2] Qin Huang, Shen Fu. COVID-19 Pandemic and Firm-level Cash Holding—Moderating Effect of Goodwill and Goodwill Impairment [J].Emerging Markets Finance and Trade, 2020, 56(10).

[3] Chang Yuting. Research on Goodwill Impairment in Medical Device Industry [D]. Northeastern University of Finance and Economics, 2022.

[4] Wang Haoran, Wang Biaohua, Zhou Zejiang. Audit committee returnee background and goodwill impairment accrual [J]. Audit and Economic Research, 2021, 36(01):58-67.

[5] Ni Yan, Zhu Hongyuan. Study on goodwill impairment of outbound mergers and acquisitions of listed pharmaceutical companies—Xinhua Medical as an example [J]. Finance and accounting communication, 2020(14):107-110+126.

[6] Fu Z. Z. Analysis and reflection on the accounting treatment of consolidated goodwill in China from the perspective of the nature of goodwill [J]. China Market, 2020(11):140+142.