

Performance Analysis of the Acquisition of BBHI by Suzhi Technology

Wei Ma^a

School of Economics and Management, Nanjing University of Science and Technology, Nanjing
210094, China

^amaweim7@163.com

Abstract

In 2016, under the background of intensified competition in the domestic communication infrastructure industry, declining gross profit rate, rising labor cost, and gradual decline in the overall profitability of the industry, Suzhi Technology adopted an extended strategy to acquire BBHI at a high premium, hoping to achieve strategic transformation and improve corporate profitability. This paper is based on information asymmetry, diversified management, synergistic effect and signal theory. Using case study, event study and financial index analysis as research methods, this paper analyzes the reasons and economic consequences of overseas high-premium M&A of Suzhi technology companies. Through the research, this paper finds that in the short term, the short-term capital response, short-term financial performance and non-financial performance of the technology respond well, and bring profits and technology to the enterprise in the short term. However, from the long-term analysis, this merger makes the stock price and profit of Suzhi far lower than the level before the merger, and the long-term capital market reaction and financial performance are poor, so it faces the risk of delisting. This paper hopes to provide some specific suggestions for numerical technology and BBHI, hoping to provide cases for benign mergers and acquisitions of GEM enterprises.

Keywords

Merger and Acquisition; Performance Analysis; Merger and Acquisition Risk.

1. Introduction

Suzhi Technology is a company that started from communication business. Founded in 2004, it was successfully listed on the GEM in 2010. Although there are many cases of mergers and acquisitions at high premium on the GEM, the relevant data disclosed by the Shenzhen Stock Exchange shows that The high premium M&A often brings about the expansion of the parent company's business and the improvement of its market competitiveness through the parent company's channels.

As one of the earliest listed enterprises in the GEM, from 2013 to 2015, it was always in a state of low profit. Therefore, in 2015, it adjusted its strategy and developed a new business model combining communication business and Internet marketing. Therefore, in order to integrate into the Internet industry faster, Digital Technology chooses to carry out enterprise mergers and acquisitions, but through the comparison of many enterprises, Internet companies with the same status do not have stable industry status and development potential. So the target was higher than its position BBHI (Blackbird Hypersonic Investments Ltd.), and BBHI is not only a new company in the Internet industry, but also the industry leader in the field of Internet marketing.

Based on the evaluation of BBHI's profitability and business operation, Suzhi Technology finally chose a high premium acquisition. And after the value evaluation of the BBHI company by the number of technology companies, in 2016, the number of technology acquired the BBHI company at a 29 times high premium, but the high premium overseas acquisition did not bring too many new opportunities to the number of technology, according to the number of science and technology annual report data show that the number of science and technology suffered a huge loss in 2020. On June 30, 2022, Suzhi Technology was delisted from the Shenzhen Stock Exchange (securities referred to as: Suzhi withdrawal).

Based on the research of information asymmetry, diversification, synergy effect and signal theory, this paper analyzes the internal and external reasons for the high-premium acquisition of BBHI, and discusses the economic consequences of cross-border high-premium merger of GEM enterprises.

2. Case Study

2.1. Basic Information of the Parties to the Merger

2.1.1. Company Profile of the Acquirer

Beijing Suzhi Technology Co., LTD., formerly known as Beijing Metano Communication Technology Co., LTD., was established in September 2004 and successfully listed on the GEM in January 2010.

At present, the company has five state-of-the-art technology development centers and three industrial bases around the world, and in 2015, the company began to attempt a strategic transformation to develop a new model combining communications business and Internet marketing. Since 2015, Suzhi Technology has adhered to the concept of "knowledge as a service" and promoted the economic development and industrial development of enterprises through technological progress. With capital and technological innovation as the main driving force of the enterprise, we founded a technical service provider based on big data and artificial intelligence technology.

2.1.2. Company Profile of the Acquiree

BBHI was founded on June 24, 2014 in the BVI (Virgin Islands) by Divyank, founder of Media.net and CEO of Star-buster. BBHI and its subsidiaries are the world's leading Internet advertising platform companies with more than 7,000 media resources worldwide, managing and operating premium advertising space for media owners and delivering accurate advertising to advertising networks such as Yahoo and Bing and their advertisers.

BBHI has the world's leading advertising technology, especially in predictive data analysis and machine learning, the use of self-developed algorithms, based on the user view or search content, automatically select the user may be interested in advertising, and balance click-through rate and bid ranking, helping media owners to increase advertising revenue.

2.2. Merger and Acquisition Process

As mentioned in the summary of the report on the issuance of shares and payment of cash to purchase assets and raise matching funds and related transactions of Beijing Meitenol Communication Technology Co., Ltd. released by Suzhi Technology in 2017, on December 29, 2016, it was reviewed by the working meeting of the Merger and Reorganization Committee of the China Securities Regulatory Commission. To acquire 100.00% of its shares by issuing shares and paying cash to Shanghai Nuomu and Ningbo Nuomu.

Upon completion of the transaction, Ningbo Norson will become a wholly-owned subsidiary of Digital Technology, which will acquire 99.998% of the shares of BBHI held by Noruo Hong Kong. The following agreements have been entered into in respect of the remaining 0.002% equity

and interest in BBHI: Nuoxiang Hong Kong undertakes to transfer the remaining 0.002% of its shares in BBHI to Digital Technology upon completion of the transaction, and to unconditionally gift 0.002% of its equity in BBHI to Digital Technology within 30 working days after the release of the 2019 Annual review report.

2.3. Acquirer Motivation

2.3.1. Promote the Strategic Transformation of the Company with the Help of Extensional Development

In 2016, the company's strategic transformation began to take shape. As part of its outward expansion, the company acquired a 100.00% stake in Sunmoon Peer in 2015 to enter the Internet marketing industry. After the completion of the merger, "mobile Internet operations and services" became part of the company's main business, increasing the company's revenue source. With the acceleration of the country's supply-side structural reform, the company will sort out its business categories, optimize its business areas, and further strategically position its online marketing business, focusing on the development of large-scale, efficient and periodic high-quality projects, and constantly improve the profitability of digital technology to achieve leapfrog development. At the same time, BBHI Group's advantages, technology, experience and channel resources in the Internet marketing industry are consistent with the future strategic planning of listed companies. Therefore, the company is willing to pay a high consideration for the acquisition of BBHI.

2.3.2. Raise the Company's Market Value to Attract more Investors

Before the acquisition of BBHI, the development momentum of Suzhi Technology was weak. As shown in Table 2.1, the growth of operating profit and net profit slowed down year by year from 2013 to 2015. In order to seek new profit growth point, decided to enter the network marketing industry. At the same time, BBHI's competitive advantages in the field of network marketing, technology accumulation, industry experience and media channels all meet the needs of Sulian Technology's merger and acquisition. By signing a post-acquisition performance bet agreement with BBHI, Suji expects to send a positive message to the capital markets, expressing its recognition of BBHI's profitability and looking forward to improving its own performance.

Table 1. Financial Status of Suzhi Technology from 2013 to 2015

Year	Operating income	Year on year	Profit from operations	Year on year	Net profit	Year on year
2013	58337.09	33.11%	5739.47	93.38%	5032.29	49.66%
2014	63565.92	8.96%	5849.57	1.92%	5337.65	6.07%
2015	76804.94	20.83%	5862.38	0.22%	5649.64	5.85%

2.4. Motivation of the Acquiree

In 2015, Digital Knowledge Technology entered the Internet advertising business and precision marketing industry, and first acquired 100% equity of Riyue Peer. From the perspective of industrial chain analysis, Riyue Peer belongs to DSP+SSP platform, its main business is Internet marketing services, based on its highly professional Internet marketing platform, through the integration of a variety of Internet traffic resources and application software download resources, in addition to the traditional Internet advertising business, It also provides value-added traffic services to media owners in customers and software marketing to advertisers in customers. Riyue Peer now has a very efficient resource integration ability, through its mature business system, especially in the Internet marketing, its customer network is widely distributed and excellent quality.

At the same time, BBHI Group has a large number of domestic and foreign high-quality media and customer resources and cutting-edge advertising technology. After the acquisition of BBHI, Digital Knowledge Technology will give full play to its synergistic effect, and the reconstructed Internet marketing system will be more comprehensive.

3. Performance Analysis of Digital Knowledge Technology Acquisition BBHI

3.1. Short-term Market Reaction of Digital Knowledge Technology Merger and Acquisition

The key to evaluate the effect of M&A is to see whether it meets the expectation before M&A. Generally speaking, if the M&A increases the value of the enterprise and the increase is sufficient to compensate for the risks faced in the M&A, then the M&A is relatively successful. Mergers and acquisitions will have an impact on the stock price and financial indicators of the company.

(1) Event definition

This paper studies the market reaction to the merger and acquisition event of Digital Knowledge Technology on May 18, 2016.

(2) Event date, estimation window and event window selection

This paper defines the event date as September 1, 2016. (CNKI first announced the acquisition of 100% equity of BBHI on May 18, 2016. However, since CNKI was suspended from trading during this period, the latest resumption date of CNKI, namely September 1, 2016, is confirmed as event date 0.)

In practice, the estimation window is generally within 100 to 300 days.

Therefore, for the specific case of the acquisition of Digital Knowledge Technology in this paper, we choose September 1, 2016 as the event date 0 (-140, -21) as the estimation period, that is, from February 6, 2015 to November 17, 2015, we use the daily closing stock price data of Digital Knowledge Technology during this period to estimate the expected rate of return during the event period. There is also no objective standard for the selection of the length of the event window, so this paper studies the short-term performance before and after the M&A and chooses the 20 trading days around the event date, namely (-20, 20) as the event window.

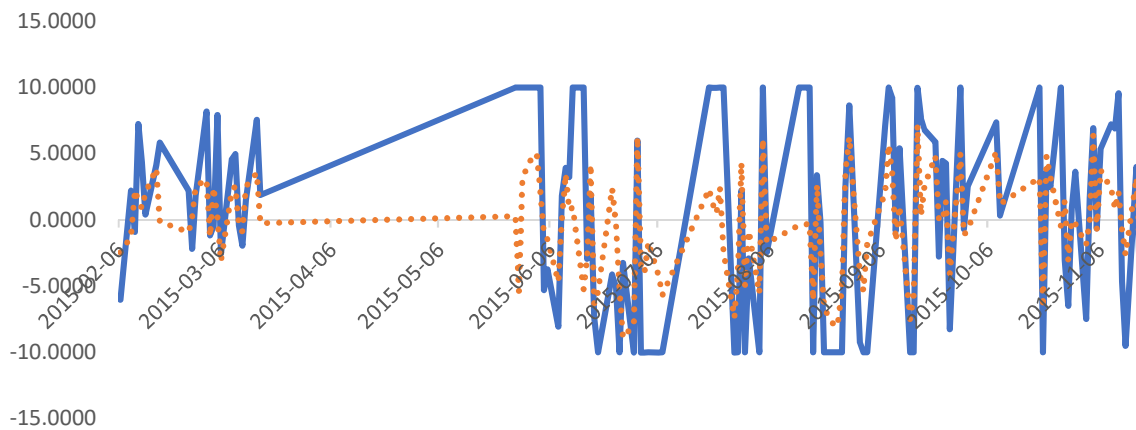
(3) Expected rate of return estimation model

Expected return refers to the company's stock return if the merger event does not occur. Abnormal returns refer to the difference between actual and expected returns. This paper uses the market model to estimate the expected rate of return, and the market rate of return adopts the Shenzhen A-share index rate of return.

$$ret_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}, t \in \text{Window of estimation} \quad (1)$$

(4) Data sources

The data in this paper come from the CSMAR database, and the SPSS software is used for data analysis.



--Count the stock return rateGem index

Figure 1. Digital knowledge technology and gem index yield trend chart

It can be preliminarily seen from the figure that the return trend of digital technology and GEM index is basically the same, but the volatility of digital technology is larger.

(5) Results and analysis

① Calculation of expected return rate and excess return rate

The market model is used to estimate the estimated data, so as to calculate the expected rate of return. OLS estimation is used, and the results are shown in the table, and the scatter plot and the fitting plot are shown in the figure.

Table 2. Correlation number table

The model		Non standardized coefficient		Coefficient of standard	t	Sig.	95.0% confidence interval for B		Correlation of			The collinearity statistic		
		B	Standard error of				Lower limit	Upper limit	Zero order	partial	Part of	Tolerance of tolerance	VIF	
1.0	(Constant value)	1.109	0.438		2.530	0.013	0.241	1.978						
	Gem index	1.444	0.117	0.751	12.351	0.000	1.213	1.676	0.751	0.751	0.751	0.751	0.751	0.751

As can be seen from the regression results in the table, the regression results are as follows:

$$ret_t = 1.109 + 1.444R_{mt} + \varepsilon_t \tag{2}$$

Through the estimated model of the estimated window, the expected rate of return of the event window can be predicted, and the actual rate of return of digital knowledge technology adopts the rate of return of the current period.

The calculation formula of excess return is as follows: $AR_t = ret_t - ret'_t$

The cumulative abnormal return is calculated as follows: $CAR_t = \sum_{t=-5}^6 AR_t$

② Result analysis Through calculation, the expected return rate, AR and CAR in the event window are shown in the table, and the trend chart is shown in the figure.

Table 3. AR and CAR in the event window

Point of time	Date	Daily real return rate	Value of prediction	AR	CAR
-20	2015.11.18	0.02	(0.01)	0.03	0.03
-19	2015.11.19	0.05	0.02	0.02	0.05
-18	2015.11.20	(0.02)	0.01	(0.03)	0.02
-17	2015.11.23	(0.05)	0.00	(0.05)	(0.03)
-16	2015.11.24	0.10	0.01	0.09	0.06
-15	2015.11.25	0.10	0.02	0.08	0.15
-14	2015.11.26	0.10	(0.00)	0.10	0.25
-13	2015.11.27	(0.10)	(0.03)	(0.07)	0.18
-12	2015.11.30	0.02	0.01	0.01	0.19
-11	2015.12.1	(0.10)	0.00	(0.10)	0.08
-10	2015.12.2	(0.05)	(0.00)	(0.05)	0.03
-9	2015.12.3	0.10	0.02	0.08	0.12
-8	2015.12.4	0.10	(0.00)	0.10	0.22
-7	2015.12.7	0.01	0.01	(0.01)	0.21
-6	2015.12.8	0.05	(0.00)	0.06	0.27
-5	2015.12.9	0.10	(0.00)	0.10	0.37
-4	2015.12.10	0.04	0.01	0.03	0.40
-3	2015.12.11	(0.09)	(0.00)	(0.09)	0.30
-2	2015.12.14	(0.02)	0.01	(0.03)	0.27
-1	2015.12.15	0.10	0.01	0.09	0.36
0	2016.9.1	(0.10)	(0.08)	(0.02)	0.34
1	2016.9.2	0.01	0.00	0.01	0.35
2	2016.9.5	(0.10)	0.01	(0.11)	0.24
3	2016.9.6	0.03	0.01	0.01	0.25
4	2016.9.7	0.00	0.00	(0.00)	0.25
5	2016.9.8	(0.04)	0.01	(0.05)	0.20
6	2016.9.9	0.00	0.00	0.00	0.21
7	2016.9.12	(0.03)	(0.01)	(0.02)	0.19
8	2016.9.13	(0.04)	0.01	(0.05)	0.14
9	2016.9.14	0.01	0.00	0.00	0.15
10	2016.9.19	0.00	0.01	(0.00)	0.14
11	2016.9.20	(0.02)	0.00	(0.02)	0.12
12	2016.9.21	0.01	0.01	0.01	0.13
13	2016.9.22	(0.00)	0.00	(0.01)	0.12
14	2016.9.23	0.02	0.00	0.02	0.14
15	2016.9.26	0.02	(0.00)	0.02	0.16
16	2016.9.27	(0.06)	0.01	(0.07)	0.10
17	2016.9.28	(0.03)	0.00	(0.04)	0.06
18	2016.9.29	(0.00)	0.01	(0.01)	0.05
19	2016.9.30	0.02	0.00	0.02	0.07
20	2016.10.10	0.10	0.02	0.08	0.15

As can be seen from the above table, the excess return is greater than zero on 21 days and less than zero on 20 days throughout the event period, with equal pluses and minuses. From the perspective of its cumulative abnormal return, the cumulative abnormal return of digital knowledge technology is almost all positive, and the highest is 39.818%. The cumulative excess return results for this event window show that the market attitude towards the merger is positive, the announcement of the merger increases the wealth of investors in the short term, and the market reacts well to the merger. From the trend chart of excess return in Figure 8.2 below, the excess return of Digital Knowledge Technology fluctuates around 0. During the whole period, the excess return is positive in 21 trading days and negative in 20 trading days, and the mean value of the graph is greater than 0 on the whole. From the overall trend chart of cumulative abnormal return, during the whole event period, the cumulative abnormal return of digital knowledge technology was almost positive, with the highest value reaching 39.818%. This shows that the market response is good after the acquisition of BBHI by Digital Knowledge Technology.

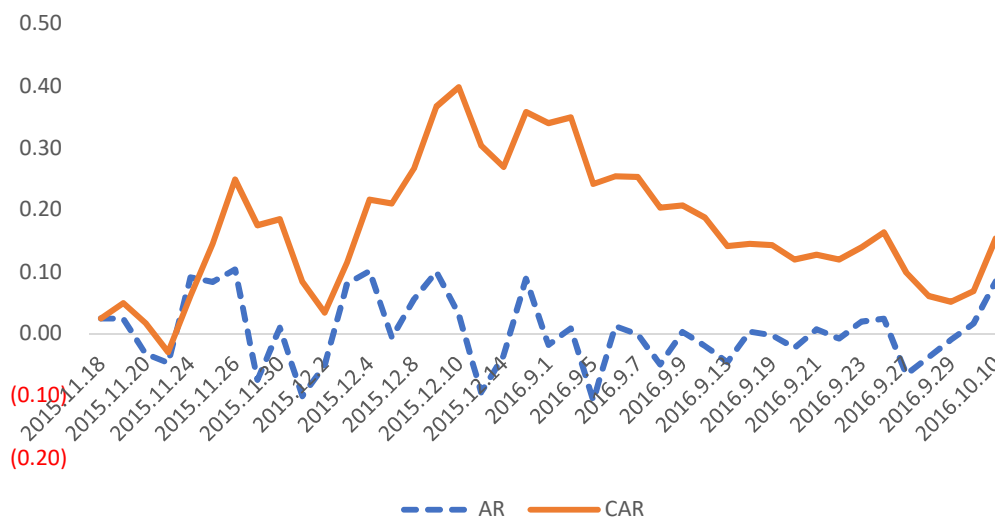


Figure 2. AR and CAR trend chart of event period

To sum up, based on the short-term performance analysis of the event study method, the short-term market reaction to the merger is positive, and investors are optimistic about the merger.

3.2. Risk of Merger and Acquisition

3.2.1. Acquirer Risk

Based on the actual operating conditions, profitability and market development of BBHI Group's Internet advertising business, the valuation agency has made a prudent and reasonable assessment of the value of BBHI Group, and the estimated value of the 100.00% equity interest in BBHI is USD937.95 million, Equivalent to 605.812.53 million YUAN (As of April 30, 2016, the net book value of BBHI attributable to the parent company is 20.1416 million US dollars, which is 2,907.39% higher than the net book value attributable to the parent company, and the appreciation is very large.

BBHI Group has the characteristics of "asset light", that is, its fixed assets and book value are relatively low, while its technical value is not reflected in the book. In addition, the income approach assessment takes into account various factors such as the financial and business condition and development prospects of BBHI Group, as well as its future profitability, to determine the price of the transaction. However, as the revenue capitalization method is based on some assumptions and future forecasts, if there are significant changes in the future due to

unpredictable factors such as macroeconomic fluctuations, a large amount of goodwill will be generated, resulting in goodwill impairment.

In the stock market, gains and risks go hand in hand. Stock price fluctuations are not only affected by the profitability and development prospects of listed companies, but also by the adjustment of national macroeconomic policies, financial policy regulation, stock market speculation and investors' psychological expectations. At the same time, the capital market responded well to the merger in the short term, but in the long run, the stock price of the enterprise fell, and the goodwill impairment of Digital Knowledge Technology was huge, and the profit turned from positive to negative. The enterprise faced the risk of delisting, and at the same time, small and medium investors faced the risk of interest loss.

After the merger and acquisition, the profit and revenue of the enterprise have been greatly increased, the profitability, debt paying ability, operating ability and development ability have been improved in the short term, and the short-term financial performance is good. However, in the long run, the stock price of Digital Knowledge Technology fell, even far below the pre-merger stock price, and the loss of shareholder wealth was serious. At the same time, after the end of the performance commitment period, the profit of the enterprise will suffer a large loss, which will bring huge losses to the enterprise. In the long run, the profitability, debt paying ability, operating ability and development ability of the enterprise will decline significantly.

At the same time, combined with the analysis of economic added value (EVA) in the value evaluation book, the merger brings an increase in the stock price and profit of Digital Knowledge Technology in the short term, but in the long term, the merger begins to decline in 2019, and the decline is obvious in 2020. According to the calculation results, it is found that: The acquisition of BBHI by Digital Knowledge Technology failed to cause the growth of EVA and has not brought stable long-term performance to Digital Knowledge Technology. It can be seen that the merger did not achieve the expected financial synergies, and the enterprise faced the risk of revenue and profit reduction.

3.2.2. Risk Analysis of the Acquired Party

As an Internet advertising provider, BBHI Group and its upstream and downstream related parties are mostly from the United States, so the US dollar is the most important transaction currency. BBHI has several subsidiaries, the most important of which is in India, where it develops technology for advertising operations and uses the Indian rupee as its bookkeeping currency; Subsidiaries in the United Arab Emirates, which hold intangible assets such as intellectual property, use local dirham; The remaining subsidiaries all use the dollar as the common transaction currency.

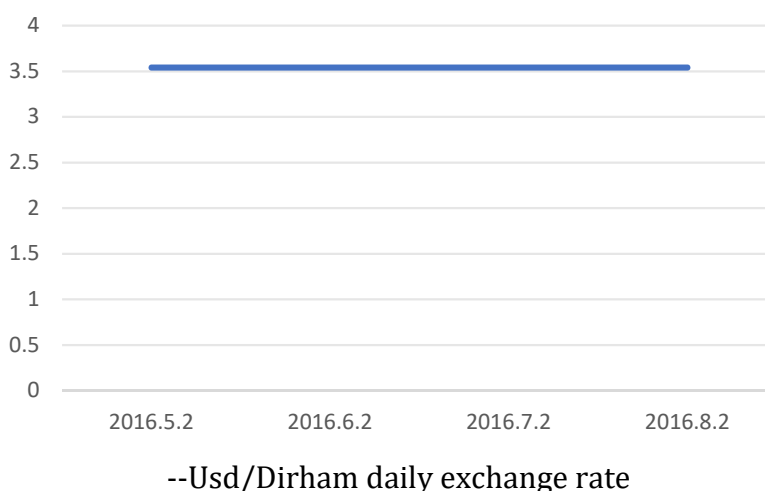
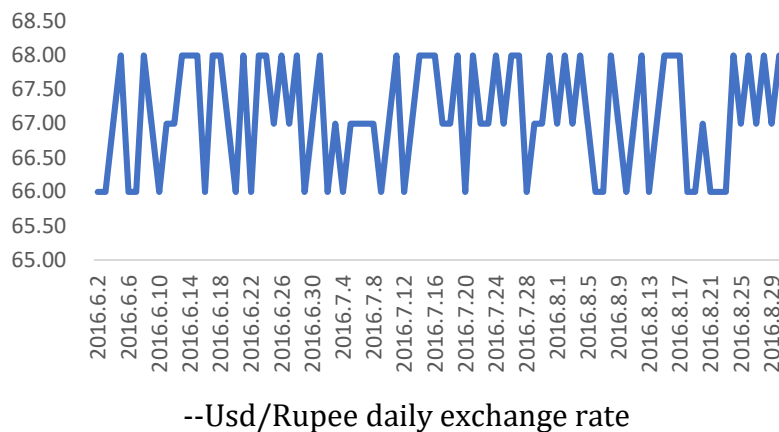


Figure 3. 2016.2-2016.8.31 Daily exchange rate change between USD and dirham



--Usd/Rupee daily exchange rate

Figure 4. 2016.2-2016.8.31 Daily exchange rate change between USD and Rupee

Since the dollar-dirham exchange rate has remained almost constant, the exchange rate risk is mainly from the dollar-rupee. As can be seen from the above figure, the exchange rate of USD against Rupee fluctuated in the year of acquisition in 2016, as of April 30, 2016: The exchange rate of 66.23 is used as the evaluation benchmark. If the US dollar depreciates and the rupee appreciates on the delivery date, the operating cost of BBHI Group in India will increase significantly and the profit will decrease, so that the actual value of BBHI will be lower than the valuation, which will damage the interests of M&A funds and listed companies, and also affect the implementation of M&A.

In the case of cross-border M&A of Digital Knowledge Technology, one of the highlights is the signing of parallel betting agreement. The first agreement was signed by Shanghai Nuomu, an M&A fund, and BBHI Group, the target company, in the overseas acquisition phase. The specific performance betting content is divided into three parts: performance commitment, performance compensation and excess performance incentive. In terms of performance commitment and compensation, BBHI Group promises that its net profit from 2016 to 2019 shall not be less than 394 million yuan, 472 million yuan, 567 million yuan and 581 million yuan respectively, otherwise it will need to compensate the M&A fund in the form of cash. The compensation amount is $[(\text{committed net profit at the end of the current period} - \text{actual net profit at the end of the current period}) / \text{total net profit predicted during the compensation period} \times \text{proposed pricing of purchased assets} - \text{accumulated compensation amount}]$; In the excess performance incentive part, Shanghai Nuomu promises to award the excess profit part to BBHI Group's senior management in the last phase of deferred payment, that is, at the end of 2019.

In addition to the above basic performance bet, the two parties also made other additional agreements. The most important one is about the signing of the contract between BBHI Group and Yahoo! As the core customer of BBHI Group, once Yahoo and BBHI no longer cooperate, it will greatly damage corporate profits, which is directly related to the vital interests of listed companies. Therefore, Shanghai Nuomu and BBHI Group agree that if the other party loses the contract with Yahoo and fails to find a replacement partner in time, Shanghai Nuomu will get a compensation of no more than USD 200 million.

The two sides also formulated an incentive treaty on the stability of BBHI group's core members. If BBHI's core technology and management personnel can be maintained stably, the M&A fund will give them certain rewards. In addition, the M&A fund also takes part of the shares of the listed company as the margin, and agrees that the market value of the equity pledged during each betting period is 1.35 times of the payables of the next period. If the final market value is insufficient, the M&A fund needs to provide a bank guarantee or accelerate the payment of subsequent payments.

4. Conclusion

With the rapid development of the global economy, mergers and acquisitions have become one of the most common means for companies to become strong and enter other industries. Since the reform and opening up, China's economic power has continued to grow, and in 2010, China surpassed Japan to become the world's second largest economy. With the promotion of China's "going global" strategy, Chinese enterprises are increasingly willing to expand overseas markets, and many of them have started overseas investment, either gradually expanding overseas markets or directly acquiring overseas enterprises to obtain existing resources and technologies, introduce modern production and management knowledge, and overcome their own development bottlenecks. In the context of increasingly fierce competition in the domestic communication infrastructure industry, declining gross profit margin and rising labor costs, as well as the gradual decline of the overall profitability of the industry, in 2016, in order to seek to obtain a wider market and more technologies, Digital Knowledge Technology adopted an extension strategy and acquired BBHI Company at a high premium, in order to achieve strategic transformation and improve the profitability of the enterprise. This paper takes the high premium acquisition of BBH by Digital Knowledge Technology Company in 2016 as the case study object. The research is based on information asymmetry, diversified operation, synergistic effect and signal transmission theory.

The cross-border merger and acquisition of "snake swallowing elephant" is faced with many risks, including financial risk, integration risk, legal risk, information asymmetry risk, etc. Enterprises should use reasonable methods in the design process of the betting agreement to minimize the transaction risk of the above merger and acquisition parties caused by information asymmetry, so as to achieve a win-win situation.

The dual-betting agreement designed by Meteno, a listed company, not only shares the M&A risk to the holder's M&A fund, but also transfers the risk of non-standard performance to the overseas acquirer by reaching performance commitments with overseas stakeholders. The design of "double bet" reduces the investment and operation risks of cross-border M&A, and to some extent avoids the risk of successful M&A transactions but failed M&A integration, which provides a new design idea for Chinese enterprises to reduce cross-border M&A risks overseas.

References

- [1] Wu K ,Lu Y ,Li D .Contingent cash crunch: How do performance commitments affect acquirer liquidity?[J].Research in International Business and Finance,2025,73(PA):102592-102592.
- [2] Palm M ,Kraft S P ,Kammerlander N .Family Firms, M&A Strategies, and M&A Performance: A Meta-Analysis[J].Journal of Management,2024,50(7):2818-2849.
- [3] Yang J ,Li J ,Wang S , et al.Research on the impact of technology mergers and acquisitions on corporate performance: an empirical analysis based on China's pharmaceutical industry[J].Frontiers in Public Health,2024,121419305-1419305.
- [4] Sakshi K ,C. G M ,Archana S .M&A performance in emerging markets: do they behave in unison or otherwise?[J].International Journal of Emerging Markets,2024,19(8):2179-2202.
- [5] Yang Y ,Rhee M ,Pak S Y .With or without metamorphosis of learning Orientation: Post-Cross-Border mergers and acquisitions performance of emerging multinational enterprises[J].Journal of Business Research,2024,182114768-.
- [6] Kim S ,Jung Y J ,Cho W S .The Influence of Ownership Concentration on Sustainable Merger and Acquisition Performance: Navigating Principal Conflicts in the Korean Market[J].Sustainability, 2024,16(12):4985-4985.
- [7] Ding S ,Du M ,Cui T , et al.Impact of board diversity on Chinese firms' cross-border M&A performance: An artificial intelligence approach[J].International Review of Economics and Finance, 2024,921321-1335.