



Research on the Acquisition of Pico by Byte Dance

Yingcong Liu^{1, *, †} Xinran Ma^{2, †} Sihan Yan^{3, †}

¹Department of Tourism Management, Sun Yat-sen University, Zhuhai, 519082, China

²Department of International Economics and Trade, Shanghai Lixin University of Accounting and Finance, Shanghai, 200120, China

³Shanghai Weiyu High School, Shanghai, 200030, China

*Corresponding author. Email: liuyc9@mail2.sysu.edu.cn

†These authors contributed equally.

ABSTRACT

Internet companies have been scrambling to grab the market since the craze of the metaverse began. To compete for the lead, Byte Dance invested heavily in VR in the past years and acquired Pico on August 29, 2021. This paper investigated the effect of the conglomerate acquisition on the acquirer. The purpose of this study was to explore how has Byte Dance been affected by this acquisition and explain how Byte Dance touch the metaverse by the acquisition. This paper mainly used the conglomerate merger and acquisition theory and SWOT model. According to the research, the acquisition not only brought many competitive advantages to Byte Dance, but also enabled Pico and Byte Dance to gain huge profits in the short term and helped Byte Dance to further occupy the exploration of the metaverse. Meanwhile, Byte Dance's huge acquisition payments have put financial pressure on it and affected its capital chain. Enterprise integration will be a difficult process. This paper recommends that Byte Dance and Pico both plan for their futures. Byte Dance should increase its investment in technology research and development, face up to its disadvantages and make continuous improvements while making reasonable use of its advantages. However, the future development and operation of both parties after the merger still need to be expected and further planned.

Keywords: *Byte Dance, Pico, Merger Acquisition*

1. INTRODUCTION

1.1 Background

Byte Dance has received much attention in recent years due to its action about metaverse. Since 2016, the “year of VR”. The concept of the “metaverse” has frequently appeared in various social areas or AR/VR software. VR technology under the metaverse contains infinite possibilities. Recently, in 2021, many companies are trying to get closer to the metaverse. On August 29, 2021, the media reported that Zhang Yiming, founder of Byte Dance, world buy VR hardware developer Pico for \$9 billion, which would be the largest acquisition in VR in 2021 [1]. Previous studies have reported that in 2014, Facebook bought Oculus which is a company about VR headsets for \$2 billion, and launched Horizon, a new VR social platform [2]. At the same time, Microsoft's Chief of R&D officer has set his sights on VR hardware and invested in Altspace VR.

Byte Dance was founded in March 2012 with the vision of creating a “global creation and communication

platform”. A previous study has reported that in April 2017, Tik Tok, which is a subsidiary corporation of Byte Dance, launched VR social, AR scan etc, to gradually approach the metaverse. Annual revenue in 2021 was about \$58 billion, up 70% compared to the last year. Pico was founded in April 2015. It is mainly engaged in the R&D (Research and Develop) and manufacturing of VR hardware and software. Pico has strengths and advantages in hardware technology, however, it still has shortcomings in content and marketing.

Details of the acquisition are not released to the public. However, the revelation of the acquisition has sparked discussion among many scholars, who have focused their attention on the concept of the metaverse. There are many studies on the impact of this acquisition on the two companies. However, there is no previous research has investigated the perspective of conglomerate acquisition.

1.2 Research Gap

Although there are many studies have reported inconsistencies in the Byte Dance's acquisition of Pico,

most of the studies only introduce the superficial situation of the acquisition. Kaur, M., and Gupta, B just said “Byte Dance entrance into the VR arena and long-term investment in this growing industry will be supported by Pico Interactive’s software and technology, as well as its talent and knowledge”. Due to the popularity of the concept of a metaverse in the field of the internet, the characteristics of technology acquisition gradually emerge. No research has examined the effect of technology merger and acquisition (M&A) through real-world cases. And there is insufficient data to demonstrate how an acquisition is beneficial to different parties. This raises the question of how Byte Dance achieves its goals through the acquisition, too. And whether conglomerate negotiation applies to all similar situations. Therefore, it is important to fill this gap in the literature by researching the effect of the acquisition between Pico and Byte Dance. This paper is one of the newest of its kind to address these questions.

1.3 Structure of This Paper

To explain how Byte Dance touches the metaverse by the acquisition, this paper investigates the effect of the conglomerate acquisition on the acquirer, and this paper begins with the SWOT model. Liu, P. analyzes the acquisition using SWOT model and puts forward some corresponding countermeasures [3]. First, this study describes the benefits of the acquisition of Byte Dance, which is also known as internal strength. Then this research pays attention to internal weakness, and objectively evaluates the stress or downside of the acquisition such as huge financial pressure, and a huge gap between brand and technology. For this research, the external opportunities indicate the larger competition power and the better brand image of Byte Dance with Pico. In this case, the external threat is significant because enterprise integration will be a hard process. With the huge competition in the internet market, whether the acquisition can be profitable.

While this research identifies that Byte Dance’s acquisition of Pico and participation in VR-related business can promote the integration of Byte Dance’s content resources with Pico’s technical resources and increase investment in product research or development. As a result, Byte Dance can get closer to metaverse successfully. At the same time, after the acquisition, there are a lot of problems in the integration. Thus, future research could investigate how can the different parties adjust themselves to make themselves or both parties feel comfortable while working together as a whole corporation.

2. LITERATURE REVIEW

2.1 Definition & Development of Conglomerate M&A

Conglomerate M&A are important content of enterprise self-development in modern economic life and an important aspect of enterprise capital management in the market economy. Through M&A, enterprises can effectively achieve a reasonable allocation of resources, expand the scale of production and operation, achieve a synergistic effect, reduce transaction costs, and improve the value of enterprises.

The mixed M&A have taken place in the United States and experienced the development of five merger waves. The first M&A wave was mainly horizontal M&A. The second M&A wave was mainly vertical M&A and the conglomerate M&A became the main form. The fourth merger made comprehensive use of the three forms of complementary. The fifth merger showed a trend of strengthening core business capabilities. The motivations of conglomerate M&A could be roughly divided into market risks and fluctuations that enterprises will encounter, reducing transaction costs to obtain the combined benefits of mergers and acquisitions, using enterprises with efficient management systems and capabilities to take over the less efficient party, integrating resources to build a larger enterprise, and the desire to maximize their own goals reported.

The main factors of mixed M&A include tangible assets, human resources, intangible assets (technology research and development, expected earnings, etc.) and other important resources, enterprise management such as organizational management ability and operation management experience, and production factors and production capacity and other production and operation factors. In addition, it also includes important factors such as resource allocation, corporate culture, capital market, degree of specialization, rate of return, operating risks, and market share.

2.2 Important Results

Over the past several decades, conglomerate M&A had played an important role in the M&A field. The available literature provided contradictory indications concerning the impact of diversification on post-M&A performance. Some studies had shown that most firms didn’t benefit from diversification [4]. This argument by Conyon et al. confirmed that unrelated acquisitions are less profitable than related acquisitions [5]. There are mainly two reasons. On the one hand, the integration phase is more complex than the related one due to the minimal relevance of the product or service. The obvious differences in the market, product, and geographical location of conglomerate M&A may cause more problems during the integration stage, which may impair

the ability of M&A to realize the synergy potential. On the contrary, in a related M&A, management has a better understanding of the target company due to their similarities and will allocate resources and make decisions better [6]. In addition, due to the diversity and unrelatedness aspect, it is more difficult to integrate operations, human resources, and physical assets in conglomerate M&A. This, in turn, raises overall operating costs, which leads to lower profitability. In short, due to the weakening of synergies, the acquirer did not get a performance improvement from the conglomerate M&A. This is confirmed by Ziva & Rozen-Bakher's research, conglomerate M&A might lead to neither synergy success nor efficiency gains, reflecting a situation where the M&A did not benefit the acquirer in any way [7]. In addition to performance, the companies' innovation performance will also be affected by conglomerate M&A. Post-merger integration of conglomerates is always more problematic due to the low industry correlation between the acquiring and acquired companies, as well as the different resources and organizational structures of the two parties. Especially in the case of merging enterprises operating in different industries, with different visions and development strategies, the management costs after the merger of the enterprise group may increase, and the innovative performance of the acquiring company may be reduced. The conglomerate M&A have a significant negative impact on the innovative performance of the acquiring companies [8]. On the other hand, some empirical studies suggested that conglomerate M&A might also produce good results, which could attribute to several other reasons. First and foremost, conglomerate M&A have higher synergy potential due to expansion into different markets and the ability to increase the market value of the merged company [9]. In addition, several factors favor conglomerate M&A, such as cheaper access to capital or improved income stability [10]. To sum up, diversity between the acquirers and targets provides opportunities to develop synergies [11].

As a result, conglomerate M&A have a higher synergy potential. However, differences in markets, products, and geographic locations can lead to complex integration phases, as well as cost reduction constraints, which can undermine the ability to improve profitability.

2.3 Summary

From the review of existing literature, it can be seen that there is not much direct research on the theory of Conglomerate M&A, and most theories use this theory to analyze relevant economic cases. M&A can have a negative impact. M&A of enterprises may bring neither success of synergistic effect nor improvement of efficiency, and M&A will not bring benefits to acquirers in any aspect. On the other hand, some empirical studies suggested that conglomerate M&A may also produce

good results. Conglomerate M&A has higher synergy potential. However, differences in markets [9], products, and geographic locations can lead to complex integration phases, as well as cost reduction constraints, which can undermine the ability to improve profitability.

After reading the related case analysis of mixed M&A of listed companies, this paper studies the influence of industry correlation on M&A performance. This review also proves that the short-term performance of M&A with small industry differences is better [12].

3. METHOD

3.1 Research Design

The research method used in this paper is qualitative because the acquisition influences several parties mostly instead of a large sample. Besides, the effect of the acquisition cannot be calculated by certain measurement processes. This research is conducted to identify the influence brought by this acquisition. Therefore, the methodology chosen for this research is SWOT model. The following chapters highlight the description of strength, weaknesses, opportunities, and threats of this acquisition. What is impressive about SWOT analysis is the matching of internal and external factors. SWOT is a flexible framework that can be well applied to different cases at different times. While reviewing the past, it also looks into the future and makes appropriate suggestions for future marketing strategies.

There are many papers in the archive that use the qualitative research method and SWOT analysis so far. A previous study said that "marketing intelligence & planning and health policy are the journals which have published the highest number of SWOT papers. Application variety of SWOT caused to publish 557 papers in 424 journals." [13].

3.2 Byte Dance

Founded by Zhang Yiming in March 2012, Beijing Byte Dance Technology Co LTD (hereinafter referred to as Byte Dance) was considered the most valuable unicorn in the world. The company is now valued at about \$75 billion. Byte Dance is international, with its services available in more than 150 countries and in more than 75 languages, giving it a strong ability to spread information [14]. In addition, Byte Dance set up an artificial intelligence (AI) lab in 2018 to diversify its business. Of all the products, TopBuzz and TikTok are the two most famous, generating a lot of revenue for Byte Dance. On August 29, 2021, Pico sent an all-staff letter disclosing that the company had been acquired by Byte Dance. After the acquisition, Byte Dance did a lot of advertising for Pico, and relied on Pico's hardware facilities to give full play to its superior ability in content ecological construction on the basis of Pico's existing major

platforms. Games are also likely to be the focus of future development, as Byte Dance launched a new game on its official website in February 2021, and Oculus has shown Byte Dance how it can monetize games through VR.

3.3 SWOT Analysis

3.3.1 Strength

After years of hardware development and the development of 5G network, the traditional Internet has gradually changed from flat to three-dimensional, and even formed a new world with technology and information, thus giving birth to the concept of metaverse. Byte Dance is the dominant and rule-maker in the Chinese and global markets, and this acquisition takes competition to the next level. This acquisition is an important step in the layout of the next generation of entertainment platforms that will be closely related to the metaverse. As it moves closer to the metaverse, Byte Dance can make a big splash in the consumer market by leveraging Pico's superior hardware and its premium content. Tencent also had plans for Pico, and the acquisition gives Byte Dance an edge in VR.

3.3.2 Weakness

Byte Dance needs to pay hundreds of millions of yuan for the acquisition. After completing the acquisition of Interactive Encyclopedia in 2019, Byte Dance also acquired Baika Mingyi in 2020. In 2020, Byte Dance just completed the acquisition of Shanghai Moonton Technology Co., LTD. Frequent brand remodeling and acquisition will inevitably impact Byte Dance's huge capital chain, bringing huge financial pressure.

3.3.3 Opportunities

Changes in the external environment create favorable conditions for a business. In 2020, Pico ranked first in the domestic VR all-in-one market share. Meanwhile, Pico's content attractiveness continued to improve, and the construction of hardware was intensified. In May 2021, Pico's new all-in-one VR machine, the Pico Neo 3, improved the positioning system of the camera, allowing for a wider field of view and reduced motion delay. At the same time, the security area setting had also been greatly expanded, so the game space expanded. In addition, capital parties such as Jianyin International Investment Consulting Co., Ltd are also very optimistic about Pico. Up to now, Pico has completed 5 rounds of financing. In contrast, Byte Dance has been making efforts in VR, however, it is still at a relatively low level of hardware. Therefore, the brand effect brought by Pico will lead Byte Dance to enter the VR field and enter the metaverse.

3.3.4 Threats

Enterprise integration will be a difficult process. Integration is the first problem to be dealt with after Byte Dance's acquisition. In terms of human resources, large-scale staff turnover needs to be avoided to reduce the impact of staff turnover on the business. The two management modes need to be integrated quickly to avoid conflicts between Byte Dance's original VR studio and Pico due to similar businesses. At the same time, financial pressure may weaken profitability, such as capital flow difficulties and low return on investment. Pico, which has generated no more than rmb1billion in revenues in its six years of existence, is likely to pay a multiples premium. Pico has the possibilities that live up to Byte Dance's hopes, too.

4. RESULT

Through research and analysis, this acquisition is successful. First of all, both Byte Dance and Pico have benefited greatly from the acquisition. Byte Dance's huge traffic provides Pico with a wealth of content and scenes, increasing the channels for content realization and promotion, and being able to explore different user needs [14]. Sainan Zhang reported in 2021 that through this acquisition, The performance of Goer shares, which belong to the same group as Pico, increased significantly, and the intelligent hardware business, mainly VR/AR business, experienced explosive growth [15]. Behind the surge is the deep binding between Goer and Byte Dance, the giant.

At the same time, Byte Dance also gained a lot from the acquisition. Byte Dance's acquisition of Pico and its participation in VR-related business will facilitate the integration of Byte Dance's content resources with Pico's technical capabilities, promote the development of VR business and increase the investment in product research and development so that Byte Dance will be more well prepared to build a technical reserve of the universe. The acquisition will facilitate the integration of Byte Dance's resources with Pico's technical capabilities and promote Byte Dance's development in virtual reality technology. The acquisition also promotes the further development of virtual reality technology, making VR/AR generate more and more extensive knowledge of the industry, further attracting the attention of the public, to promote the UPGRADE of the VR/AR industry chain.

The acquisition will bring more competitive advantages to Byte Dance. As the company with the largest market share of VR all-in-one in China, Pico's strong technical strength can escort Byte Dance in hardware technology. The acquisition will help Byte Dance gain a foothold in the VR market and break into the metaverse. However, the acquisition could also give Byte Dance some disadvantages in the future. Byte Dance has plenty of users both at home and abroad,

however, Pico has only a domestic presence. Byte Dance's acquisition of Pico, and Facebook's acquisition of Oculus in metaverse and VR. Pico still lags behind Oculus in terms of technology or content attraction, so for Byte Dance to become more competitive abroad after acquiring Pico, it needs to redouble its efforts, invest heavily and plan for the long term. In the meantime, Tencent remains on the lookout. Tencent, the investor behind the "first Share of The Universe", has invested heavily over and over again, not wanting to miss out on the technology trend and partnering with Roblox [1].

Byte Dance to beat Internet gene and social attribute, and "yuan" the universe is very fit, in combination with Pico hardware advantage, promote the development of the hardware through software applications, hardware iterative upgrade can make it possible to more application functions, promote the development of virtual reality hardware and software promote each other, is expected to build competitive soft hard one complete VR ecosystem [16]. The metaverse is a very important innovation that could fundamentally change the shape of human society. A virtual society based on the Internet will not only supplement the real society but even replace it.

5. DISCUSSION

Overall, Byte Dance's acquisition of Pico was a decision under its strategic planning. At present, the market generally believes that virtual reality technology will be the entrance and carrier of the meta-universe, and Pico is a representative enterprise in the VR field and has unlimited development potential. Byte Dance also has the advantages of loyal user groups and an outstanding brand image and has the strength to push Pico to a higher platform.

However, although the "metaverse" in the spotlight has attracted wide attention and discussion, no one knows whether this is another content consumption revolution or just bubbles. For Byte Dance, although it has achieved great success because of TouTiao, TikTok, and other products. While, from 2016 to 2020, it has always relied on the inertia brought about by the potential of past success, and the development in the fields of education, games, and to B has mostly encountered unsmooth or still faces a lot of uncertain competition.

Therefore, the author believes that the development of the VR industry is not overnight, nor is it harvesting a wave of dividends through explosive applications. However, a long-distance run for VR to embrace many emerging technologies. Byte Dance should also maintain long-term patience as a long-term development goal, integrate the corporate cultures of Pico and Byte Dance, and cultivate its business growth in VR.

Byte Dance's acquisition of VR companies at the time of its imminent listing has created greater future expectations for investors, adding the concept of meta-

universe, and the acquisition funds can also be recovered from the stock market in the future, which is a good deal. As the researchers say, the market value of the company after the merger has been significantly improved [17]. Although Pico's sales in China are among the best, due to the small scale of the industry, innovation and marketing publicity are lacking, especially in the content ecology. Internet companies have used the advantages of these two to fill the general deficiencies of the VR industry, as previous studies have proved that the Internet industry and the VR industry have developed in synergy [10]. However, it remains to be seen how its performance will go after the merger.

6. CONCLUSION

The metaverse has received a great deal of sustained attention. Byte Dance's acquisition of Pico is an action under the strategic planning of stepping into the meta-universe field. Based on the existing research, this paper analyzes the case study of Byte Dance's acquisition of Pico and uses conglomerate M&A theory to explore the impact of technology M&A of Internet enterprises on the acquirer. This fills the gap in the study to some extent. Therefore, in the context of Byte Dance's acquisition of Pico, this study examines the changes after Byte Dance's M&A and explores whether conglomerate mergers and acquisitions create value for the acquirer. After the collation of conglomerate M&A theory, the appropriate research method was selected in this study, the SWOT analysis method, to analyze the impact of mergers and acquisitions from f5perspectives, which were strength, weakness, opportunity, and threat.

To conclude, the acquisition is a success with long-term challenges. With its premium content and extensive marketing, Byte Dance has quietly become the public's first choice. A strong alliance with VR head enterprises to create favorable conditions for the development of Byte Dance. It is believed that through the joint efforts of Chinese enterprises, the "meta-universe" will be pushed to the market step by step from the concept. However, the cost of this strategic decision is a huge M&A fee. Frequent rebranding and acquisitions will inevitably affect Byte Dance's huge capital chain, bringing huge financial pressures. How to further expand the influence of Pico is also a challenge. Based on the above conclusions, this article also provides development suggestions for Byte Dance, that is, maintaining long-term patience as a long-term development goal, integrating the corporate cultures of Pico and Byte Dance, and nurturing its business growth in the VR field.

As an M&A event of an Internet enterprise, Byte Dance promotes the development of VR hardware through software applications, and the iterative upgrading of hardware improves the possibility of software to achieve more application functions. In the field of virtual reality, software and hardware achieve

synergy development now. For Byte Dance, the resource allocation after the M&A, corporate culture integration, and other elements are worth paying attention to.

After combing through the relevant literature, in this study, it can be found that the theory of conglomerate M&A is still applicable in the M&A events of the Internet industry. However, due to the limited data acquisition (it is impossible to obtain the specific performance of Byte Dance's Pico department after the merger), this paper will refer to the existing second-hand network data as a supplement to the research data and carry out a summary analysis based on the author himself, which has certain subjective factors. In addition, less than a year has passed since the M&A occurred, and it is not possible to conduct an analysis based on long-term performance. Therefore, where there are differences with others' research, there should also be a multi-party reference.

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