Analysis of Corporate Mergers and Acquisitions: Evidence from Baidu's Acquisition of YY Live

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Abstract. Contemporarily, the live streaming business has experienced exponential growth and appeal. After recognizing the enormous potential of the live streaming sector, Baidu pursued the strategic acquisition of YY Live. This article analyzes the case of Baidu’s merger and acquisition of YY Live. First of all, it introduces the related research and theory about the financial performance before and after acquisition. Then, we choose Baidu with its acquisition of YY live. To be specific, this study introduces the merger and acquisition process in a brief way, using event research method and financial index method to analyze the motivation of Baidu merger and acquisition of YY live and Baidu’s corporate financial performance change after the implementation of merger and acquisition strategy. It is found that the acquisition behavior has improved the profitability of the company, has no obvious impact on the solvency, has a negative impact on the operating ability and improves the development ability. Finally, we draw the conclusion, and put forward corresponding suggestions for enterprise merger and acquisition. These results have certain reference value and guiding significance for researchers in live broadcasting industry and enterprise acquisition.

Keywords: Baidu, YY Live, acquisition, financial performance.

1. Introduction

The business environment of today is characterized by ferocious competition and a market that is changing constantly. Corporate mergers and acquisitions (M&A) have developed into essential strategic tools for companies wanting to strengthen their position in the market, expand their operations, and gain a competitive edge in this shifting climate [1]. Mergers and acquisitions (M&A) operations include a wide range of commercial transactions, such as joint ventures, acquisitions, and strategic alliances, and they could significantly affect the financial performance, market share, and overall success of the associated organizations [1]. In recent years, the live streaming business has experienced exponential growth and appeal, especially in the context of the Chinese technology sector. Platforms that allow users to communicate in real-time, share experiences, and access a wide variety of material have grown to be an important component of the social media landscape [1, 2].

This study is centered on the well-known M&A case study of Baidu’s acquisition of YY Live. One of China's biggest Internet companies, Baidu was established in 2000 and has its headquarters in Beijing. One of the most well-known and commonly used search engines in China is Baidu, which is well renowned for its search engine services. Baidu is a search engine, but it also works in several other industries, including internet marketing, AI, cloud computing, and self-driving technologies. In China's internet market, Baidu is well-established and holds a sizable market share. Huanju Group, currently known as JOYY Inc., founded YY Live, a popular online speech broadcasting platform in China. With its headquarters in Shenzhen, Guangdong Province, YY Live was established in 2005. YY Live, a company established in 2005 with its headquarters in Shenzhen, Guangdong Province, offers customers live content mostly in the form of real-time vocal communication, including a range of musical performances, game broadcasts, chat and interactivity, etc. In China, YY Live is widely used, and live broadcasts in the entertainment and gaming industries are particularly well-liked.

In terms of business size, Baidu is a huge online behemoth that operates across many industries, employs a sizable workforce, and has a fully international business structure. More than 30,000
people will work for Baidu by the end of 2021, and the company will be active in both the Chinese and international internet markets [1]. YY Live (JOYY), in contrast, is a very modest business that focuses on internet voice broadcasting. Although it employs a small number of people, it has had notable success in a few niches, most notably live voice broadcasting and social entertainment, and it is well-known in the Chinese market. The main products of the company are YY, BIGO LIVE, Likee, and HAGO. With the 3.6 billion USD merger and acquisition, Baidu hoped to improve its competitive position in the rapidly expanding Chinese technology sector by leveraging YY Live's sizable user base, content ecosystem, and cutting-edge technology.

For Baidu, a prominent technology company renowned for its search engine services, entering the live streaming market through the acquisition of YY Live presented an opportunity to tap into this booming industry [2, 3]. Recognizing the enormous potential of the live streaming sector and its ability to enhance user engagement, diversify its service offerings, and secure a strong foothold in the ever-evolving Chinese technology market, Baidu pursued the strategic acquisition of YY Live. By integrating the vast user base, content ecosystem, and cutting-edge technology of YY Live into its existing portfolio, Baidu aimed to leverage the strengths of both companies to create a formidable presence in the highly competitive and rapidly developing Chinese live streaming market [4]. The move was not only driven by Baidu's desire to expand its clientele but also by the recognition of the live streaming industry's transformative impact on the way people interact, consume content, and participate in online communities [3].

This study attempts to assess the degree to which the acquisition contributed to Baidu's overall development and profitability putting light on the strategic factors that motivated Baidu to pursue this M&A venture. In this case, we will address several important research questions, including an investigation of the underlying drivers behind the acquisition, an evaluation of the financial implications on Baidu's performance following the merger, an analysis of the potential synergistic effects and cost savings derived from the consolidation, an assessment of the challenges faced during the integration process, and a determination of the transferable insights for other firms operating. The theoretical framework supporting this research is based on fundamental ideas and viewpoints from numerous academic fields that are pertinent to corporate M&A. In order to comprehend how special and valued resources and capabilities contribute to competitive advantage and improved financial performance post M&A, the resource-based view (RBV) theory will also be used [5, 6]. When analyzing agency issues and potential conflicts of interest between acquiring and acquired enterprises during the integration process, the agency theory approach will be considered. Additionally, market power will be examined in order to comprehend the effects of M&A on market competition and concentration, particularly considering the emergence of dominating businesses in the technology sector [2]. Overall, this study aims to provide a thorough analysis of the reasons behind Baidu's purchase of YY Live and the resulting financial performance of the combined company. The study's findings have the potential to further knowledge of corporate M&A dynamics with relevance to the live streaming market, while also offering insightful information to businesses considering comparable strategic decisions. The research intends to promote management decision-making, influence industry practices, and contribute to academic scholarship in this important field of corporate strategy and finance by merging perspectives from researchers worldwide and examining the numerous facets of corporate M&A.

2. Methodology

This research employs two primary methodologies to comprehensively investigate the motives and financial performance of Baidu's acquisition of YY Live: case study and financial indicators analysis. Drawing insights from relevant literature, these methodologies aim to ensure the accuracy, rigor, and credibility of the study. The case study technique is a qualitative research strategy created to collect, examine, and interpret data pertaining to actual events and circumstances, offering insightful information about the underlying dynamics and causal elements [5]. The main sources of this study
uses are public statements, business reports, and post-Merger Integration cases [7]. The case study approach will provide a thorough knowledge of the motivations and strategic choices that went into Baidu's acquisition of YY Live, allowing for a more in-depth investigation of the transaction's goals and purposes.

In order to undertake a thorough comparison of financial metrics before and after the acquisition, the financial indicators study, which is a quantitative research approach, focuses on four major perspectives: profitability, solvency, operating efficiency, and development potential. In order to assess changes in profitability metrics, such as revenue growth, net profit, and operating profit margin, the analysis compares the financial performance of Baidu before and after the acquisition [1, 5, 6]. This gives insights into how the acquisition affected the company's ability to turn a profit. The financial indicators analysis also evaluates the influence of the acquisition on Baidu's growth potential by looking at key performance metrics pertaining to the company's growth, market share, and investment in R&D [1, 5, 6]. This research offers important insights into the acquisition's overall impact on Baidu's financial health and growth prospects by contrasting various financial measures before and after the acquisition. To ensure the study's methodological rigor and trustworthiness, consideration will be given to the approaches and insights from the mentioned references.

3. Motivation Analysis

3.1. Strategic Motivation

In today's globalized and highly competitive business environment, mergers and acquisitions among companies have become an important strategy for market expansion and diversification. By acquiring YY Live, Baidu companies can quickly expand their product lines, enter new markets and achieve economies of scale. It would also make up for Baidu's lack of live internet access and help diversify Baidu companies' products and services. The two sides will mutually empower each other in technology, flow, ecology and other aspects to form a scale effect.

Baidu companies, as our country's internet giants, not only have large pools of capital, but also have accumulated considerable user traffic. However, the new market environment for the development of traditional internet companies put forward a great challenge, so many enterprises are exploring the path of coordinated development. The combination with live broadcast can not only convert the precipitation flow into a cash flow channel, but also can quickly improve the company's internal live broadcast ecology through the acquisition of a mature live broadcast enterprise, the company's original business and live broadcast closely together. After the M & A, Baidu will have more business channels and more liquidity channels, which will help to increase the operating income of the company and thus increase the stock of Baidu's own cash flow to carry on other business for Baidu, artificial Intelligence and long video support, for example, make it easier for Baidu to diversify its business [7]. YY's live streaming service can help Baidu further complement content forms other than text and short videos, enrich Baidu's search content targeting and improve the user experience of its search information streaming service, enhance the stickiness of existing products in Baidu.

The Chinese internet market is changing rapidly and in many ways because of innovations in operating models, applications and content. This innovation-driven, not only led to domestic internet industry competition barriers continue to lower, so that many start-ups continue to enter the internet market, the competitiveness of the gathering together, the competition is increasing [8]. Upon completion of the acquisition, YY’s live content and technology will be synchronized to Baidu, while YY’s domestic live broadcasting team will also be transferred to Baidu. Strong technology has long been Baidu's advantage. In recent years, the live broadcast industry has encountered a bottleneck period, once the live broadcast industry reaches the ceiling, it is inevitable that the platform side needs to provide better technical services. Technology accumulation in Baidu can help YY Live to break the development bottleneck. For Baidu, the YY live broadcast is just to make up for its live on the short board, so that its live broadcast business installed to accelerate the development of the engine.
YY live broadcasting has long been a leader in the industry, and its experience, technology and host lineup will provide strong support for Baidu to build a closed loop of live broadcasting ecology.

3.2. Financial Motivation

After a merger, Baidu could save some operating costs by integrating multiple business models, spread development costs over a wider range of goods, and make new technologies easier to adopt, to develop something new. Through M & A, not only the business scope of the company can be expanded, but also can improve the ability to withstand risks and improve the efficiency of the company. Since 2005, the domestic live broadcast industry through the exploration of the development period, flow dividend period, commercial cash-out period, and now to the depth of penetration period. Affected by the black swan epidemic, the live broadcast form has been favored by all walks of life, “Live +” trend is increasingly prosperous. Set Foot in live broadcast, it means to seize the huge opportunity in the tuyere. But that was before the industry took shape. Tiktok and Kuaishou started from two directions respectively, harvesting most of the short video and live broadcast users. Together with Taobao, Doddo and other efforts to ecommerce live broadcast, new entrants have little opportunity to grow bigger and stronger. But after the deal, the Baidu-YY combination, if put to good use, has the potential to spark change and dynamism in the industry. The advent of the mobile internet has created a closed-loop ecosystem of open traffic in a fierce game of business interests, and the core goal of Baidu's new mobile ecosystem strategy is to keep users in Baidu [9] increasing user engagement and scale have created huge potential for Baidu's mobile ecosystem to diversify and monetize. Baidu, which won YY Live, will certainly continue to invest in live streaming, and an efficient monetization business will be an important contributor to Baidu's revenue growth.

In 2020, the Internet industry advertising market polarization more obvious, with the social nature of e-commerce short video, advertising and link transactions continue to increase the number, proportion continues to increase, baidu is planning a live-streaming segment after initially improving its short-video business internally. Baidu's acquisition of YY Live will not only improve the revenue structure, but will also add to Baidu's existing ecological elements to boost financial performance. Such as Eco-baidu within the Tieba, novels, videos and other users, itself and YY live show content fit. Integrated YY Live, these entertainment sector user data are likely to be improved, the corresponding advertising revenue will be coordinated growth. In addition, live broadcasting has the mature and efficient cash-flow ability, and the online live broadcasting platform is valued by more and more self-media creators, precisely because the virtual currency of online live broadcasting enterprises and the RMB can be converted to each other, to achieve personal income [10]. Acquiring YY live can increase free cash flow for Baidu and support other business development.

4. Impact of Acquisitions on Financial Performance

This chapter will analyze the financial performance of Baidu before and after the acquisition of YY Live from the following four aspects, respectively profitability, operating ability, solvency, development ability. We choose the representative key financial indicators from 2018 to 2022, a total of 5 years as the observation interval. Through the observation Baidu's 5 years in profitability and others, we will analyze he is corresponding influence on the company's financial performance.

4.1. Analysis of profitability

Profitability is the ability of a company to make profits, usually reflected by the level of income. By measuring a company's profitability, investors can judge the company's operating performance and then decide whether it is worth the investment. On the other hand, profitability can also reflect the company's current problems with the company. We select the gross profit margin, operating profit margin and return on equity in the profitability index. Through the change trend of these three
indicators, the profitability of Baidu before and after acquisition. The trend of profitability before and after Baidu's acquisition of YY Live is shown in Fig. 1.

![Figure 1. The trend of profitability before and after Baidu's acquisition of YY Live.](image)

According to the data table and trend chart of the above three indicators, Baidu's gross profit rate, return on equity and operating profit margin increased significantly during the acquisition, but the gross profit rate maintained a stable level after the acquisition, and the operating profit margin rebounded after fluctuations, indicating that these two indicators have increased to a certain extent. However, the return on equity declined after the acquisition, fell to the original level, and did not improve significantly. The reason is that after the acquisition of YY Live, Baidu gained more market share in the industry and improved its comprehensive strength, thus increasing the company's income. Through the comparison of the above data, it can be clearly seen that after the acquisition, the profitability of Baidu's shareholders to invest capital and the efficiency of capital use have been improved to a certain extent. To sum up, Baidu's acquisition of YY Live has an obvious positive impact on the profitability of the company, but after the completion of the acquisition, the impact on the company's profitability is gradually reduced and has reached a stable state.

4.2. Analysis of solvency

Debt repayment ability is the ability to pay back a corporate debt. Debt solvency is crucial for a company, related to whether the company can continue to develop healthily. This paper selects the current ratio of the short-term solvency index and the asset-liability ratio in the long-term solvency index. Through the change trend of two indicators after the acquisition of Baidu. Among them, the higher the current ratio ratio, the stronger the liquidity ability. If the ratio is too high, it means that the current assets occupy too much, which will affect the company's profitability and the utilization of funds. The asset-liability ratio is the evaluation index of the company's liability level as a whole. The trend of solvency before and after Baidu's acquisition of YY Live is shown in Fig. 2.

![Figure 2. The trend of solvency before and after Baidu's acquisition of YY Live.](image)

In terms of the short-term solvency of enterprises, the current ratio reflects the ratio of current assets and current liabilities. In general, the larger the index, the stronger the company's short-term solvency. As can be seen from the data in Fig. 2, the current ratio of Baidu reached 2.86 in 2021 after the acquisition of YY Live, which showed little change compared with before the acquisition. On the whole, the acquisition has no obvious impact on Baidu's short-term solvency. In terms of the long-term solvency of an enterprise, the asset-liability ratio refers to the profitability of the enterprise to use the borrowed funds to operate, in other words, it is to measure the security degree of creditors to
the enterprise. If the general asset-liability ratio is low, it indicates that the long-term solvency of the enterprise is strong. Through the comparative analysis of the long-term solvency before and after Baidu's acquisition of YY Live in Fig. 2, it is found that the asset-liability ratio of Baidu did not change significantly after the acquisition. To sum up, from the perspective of Baidu's short-term solvency before and after the acquisition of YY Live, the current ratio has slight fluctuations compared with before the acquisition, with no significant change. From the perspective of long-term solvency, it basically remains unchanged, indicating that the acquisition has little impact on the overall performance of the company's solvency.

4.3. Operating ability analysis

Operating ability is the operation ability of an enterprise, that is to say, the ability of the enterprise can gain by using its assets. The financial indicators that analyze the operation capacity of an enterprise include: inventory turnover, accounts receivable turnover, current assets turnover, fixed assets turnover and total asset turnover, etc. These indicators reflect the capital operation and turnover of an enterprise [5]. This paper selects two indexes of total asset turnover and accounts receivable turnover as operating capacity indicators. Through the change trend of three indicators and analyze the change of operating capacity of Baidu before and after the acquisition of YY Live. Among them, the total asset turnover rate is the efficiency of using the total assets, that is, the turnover speed of the total assets. The turnover rate of accounts receivable reflects the collection speed of accounts receivable. The higher the ratio indicates strong asset liquidity and less bad debt losses. The trend of operating ability before and after Baidu's acquisition of YY Live is shown in Fig. 3 and Fig. 4.

![Figure 3. The trend of total asset turnover rate before and after Baidu's acquisition of YY Live.](image)

![Figure 4. The trend of turnover ratio of receivable before and after Baidu's acquisition of YY Live.](image)

According to the relevant data of Baidu's financial statements from 2018-2022, it can be found that the total asset turnover rate and accounts receivable turnover rate of Baidu slowed down after the completion of the acquisition of YY Live, but the completion of the acquisition in the second year returned to the speed before the acquisition. In terms of total asset turnover ratio, the turnover ratio of Baidu's total asset turnover ratio in the first year after the acquisition has not changed compared with the previous year. This is mainly because the acquisition of YY Live caused the rapid growth of the total assets and alleviates the decline rate of asset turnover ratio before the acquisition. At the same time, after the completion of the acquisition, the company's main business is integrated, and the synergistic effect improves the utilization efficiency of the total assets. In the turnover rate of accounts receivable, due to the asset restructuring of the company, the company increased the company's capital inflow. Although the change was little in the initial stage of the acquisition, it still showed a
downward trend after that. To sum up, the company's operating capacity has been negatively affected after the acquisition, resulting in the overall reduction of the company's capital turnover capacity.

4.4. Growth ability analysis

Development ability is an indicator that indicates the future development trend and development level of the company. This paper selects the two indexes of total asset growth rate and operating income growth rate as the development ability index. Through the change trend of Baidu's development ability before and after the acquisition of two indicators. Among them, the total asset rate of growth reflects the speed of expanding the company. The growth rate of operating income can directly reflect the growth of the company's profits and revenue, which can provide a powerful reference for managers and investors to make decisions. The trend of growth ability before and after Baidu's acquisition of YY Live is shown in Fig. 5.

![Figure 5. The trend of growth ability before and after Baidu's acquisition of YY Live.](image)

From the above data table and trend chart, the growth rate of total assets and operating income is affected by the acquisition behavior from 2019 to 2020, but the growth rate of the company after the acquisition has not improved significantly. In particular, the growth rate of operating revenue fell sharply in 2022. Although the growth rate of total assets decreased after the acquisition, it returned to 18.21% in 2022. Overall, the acquisition had a positive effect on the growth rate of total assets. To sum up, the acquisition behavior improves the company's development ability to the company's development ability to a certain extent.

5. Discussion

5.1. Motivations behind Baidu's Acquisition of YY Live

YY live streaming, as the leader of domestic entertainment live streaming platforms, has rich experience in live streaming technologies, operating platforms, and anchor incubation, etc., with years of accumulation of strong audio and video technology, Personnel Operation Ability. Baidu, with its own strong mobile internet ecosystem, has always been at the forefront of the domestic internet industry, with more than a billion monthly active users, live streaming can be integrated into Baidu's traffic system more quickly, making use of Baidu's huge customer size and capital pool to realize more efficient flow monetization, and promoting complementary advantages and coordinated development. The most immediate goal of the case is to increase Baidu's market share in the live broadcast sector and improve financial performance. Baidu, the leading internet company, is an entire ecosystem, with hundreds of millions of users logging into Baidu every day, and there is no doubt that Baidu needs a partner to help it grow in the live-streaming business, capture market share quickly. Since 2020, Baidu has been developing its capital M & A and organizational structure at the same time, setting up a live broadcast platform and accessing JD.com's logistics system. And merger YY Live, it is in the improvement of their live broadcast in the field of a big step. After the merger, YY Live Content, technology and the entire team will belong to Baidu, which is undoubtedly a major boost to Baidu's development in the live broadcast industry. Baidu has been expanding and improving its live broadcasting business, making it one of the company's key businesses in 2020. In addition to
YY Live, Baidu also frequent interaction with the comedy culture, Happy Mahua team, Rich Video Content. The acquisition of YY Live streaming is just one part of a number of important video initiatives in Baidu in recent years. Once the acquisition of YY Live streaming is completed, it means that Baidu is now in the hot live streaming sector, with a wide range of content, from games to entertainment, and a well-established product system and operations team, it has further diversified its business needs.

5.2. Evaluation of the Financial Performance of the Baidu-YY Live Entity

A comparison and analysis of the relevant data shows that the profitability of Baidu shareholders' investment capital and the efficiency of capital use have improved to a certain extent after the acquisition, in the aspect of debt paying ability, its short-term and long-term debt paying ability has no obvious change and basically remains unchanged, although the acquisition behavior has little influence on the total assets turnover rate, the turnover rate of accounts receivable shows a downward trend, and the operating capacity is negatively affected, the growth rate of total assets and business income fluctuates greatly before and after the acquisition, but on the whole, the acquisition improves the development ability of the company to a certain extent.

As far as the case of Baidu’s acquisition of YY Live in 2020 is concerned, the company has realized the rational allocation and utilization of resources, and has created greater profits, can be regarded as a successful acquisition. In the case of Baidu, the company can continue to expand effectively through reasonable acquisitions and continue to improve the diversification of its business. At the same time, the company can adjust its operation methods to ease the pressure of debt repayment, reduce financial risk, reasonable allocation of resources, so that the company can get better development in the future.

5.3. Implications for Theory and Practice

Live broadcast industry to have a clear strategic planning, continuous precipitation of user traffic, rich cash channels. Since the internet has realized the transition from the PC side to the mobile side, traffic has also changed the way it exists, and started to focus on one fixed APP after another. At the same time, due to the fierce competition in the market, each APP is an island of traffic, so creating a commercial loop is important for any company that wants to do live streaming. For the next companies that want to engage in the live broadcast industry through acquisition, first need to build the foundation, which is also the foundation of the existence of the live broadcast industry, and secondly to accumulate user traffic, we can expand the traffic by merging some live broadcast companies, and we can also take some economic measures to attract customers to stay in the company.

The acquisition of live broadcast industry to make the two sides achieve coordinated development, need certain conditions. On the one hand, the acquirer needs huge user flow and sufficient capital as support, which can ensure the follow-up of the acquisition for live broadcast platform drainage and platform operation; on the other hand, a live broadcast company needs to be a mature operating enterprise with a complete operating process, rich operating experience, and a well-known live broadcast team, so that the combination of the two can achieve performance dividends, promote the flow of cash, improve the acquisition of both business conditions, improve operational efficiency.

Now the market is generally divided into live e-commerce types, live shows and live games these kinds of market has been nearly saturated. Therefore, the following live broadcast enterprises that want to have a certain competitive advantage in the live broadcast market need to consider the issue of building a differentiated live broadcast platform, combining their own operating characteristics, carrying out operational forms and technological innovation, create a unique operating model, increase user stickiness and activity, expand market share. For example, YY Live broadcast the first proposed live“PK” model, greatly increased the interaction between the audience and the anchor, to stimulate the consumer desire of the audience.
6. Conclusion

To sum up, while the acquisition has reduced Sunac China's operating capacity and reduced its solvency, its profitability and development capabilities have increased significantly. And with the future restructuring and adjustment of the company's assets, its operating capacity still has room for adjustment. Therefore, according to the performance analysis, the acquisition as a whole has a positive effect on the further development of Baidu Companies. This study analyzes the financial indicators before and after Baidu's acquisition of YY Live, it fully and clearly shows the changes in Baidu's financial performance after its acquisition of YY Company from four aspects: profitability, operating ability, solvency and development ability. Besides, we discuss motivation and purpose of Baidu's acquisition of YY Live broadcast, and summarizes the experience and Enlightenment for China live broadcast enterprise acquisition through this acquisition case analysis, it also points out the deficiency in the development to some extent, which has certain reference value and guiding significance for the following live broadcast enterprise acquisition and enterprise acquisition.

In detail, this paper only chooses the financial index to study, its content is relatively single, only from its financial performance analysis of the impact of the acquisition, Baidu completed its acquisition of YY Live in 2020. In the analysis of financial indicators, we should choose as many listed large enterprises as possible, and the data that these enterprises disclose are more comprehensive. In addition, the state should also strengthen the efforts of enterprises to actively disclose financial data and information publicly, at the same time, when conducting case studies, we should fully understand the current situation of enterprises, carry out a lot of research, accurately select indicators to adjust; It can also be combined with other methods to analyze the acquisition events, such as some non-financial indicators, such as acquisition risk and external environment, to comprehensively analyze the acquisition performance, a longer-term look at the performance of Baidu's YY Live feed is needed to draw more accurate and objective conclusions.

7. Author Contribution

All the authors contributed equally and their names were listed in alphabetical order.

References