Financial Analysis and Development Suggestions for New Energy Automobile Enterprises based on Harvard Analytical Framework-Taking BYD as an Example

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Abstract. Under the background of the continuous promotion of carbon neutrality worldwide and the rapid development of the new energy vehicle industry, the global status of Chinese new energy vehicle enterprises is increasingly important. As a representative of the industry, BYD's financial performance and strategic development have become the focus of attention. Based on the Harvard analysis framework, this study systematically analyzes the financial and operating conditions of BYD from 2020 to 2024 from four dimensions: strategy, accounting, finance and prospect. SWOT analysis is used to identify internal advantages and external opportunities, and Dupont analysis system is used to evaluate BYD's profitability, operating and solvency efficiency. The research shows that BYD has advantages in technology R&D and industrial chain integration, but it also faces challenges such as insufficient brand premium ability and solvency risk. This study aims to provide a reference for enterprise management and investment decisions and put forward suggestions for the sustainable development of enterprises and the new energy vehicle industry.

Keywords: Harvard Analysis Framework, BYD Co., Ltd., New Energy Vehicles, Financial Analysis, Strategic Development.

1 Introduction

Under the macroscopical background of global response to climate change and promotion of green transformation, the development of new energy vehicles has become a key path for all countries to achieve green development. As the world's largest new energy vehicle market, China's industry scale continues to expand, and BYD Co., Ltd. (hereinafter referred to as "BYD") as an industry leading enterprise, has become increasingly competitive in the world. As one of the world's top 500 companies with business layout covering the fields of electronics, automobiles, new energy, and rail transportation [1]. BYD has not only ranked first in China's automobile market in terms of sales volume for many consecutive years but also surpassed Tesla in the European market for the first time in April 2025, becoming an important sample for observation of industry trends [2].

© The Author(s) 2026
L. C. Yoong (ed.), *Proceedings of the 2026 2nd International Conference on Financial Innovation and Marketing Management (FIMM 2026)*, Advances in Economics, Business and Management Research 408,
https://doi.org/10.2991/978-94-6239-801-6_69

However, the industry also faces various challenges: internationally, policies such as the New Battery Regulation of the European Union and the Inflation Reduction Act of the United States have built new market access barriers; Domestically, subsidies and tax incentives for new energy vehicles have been gradually tightened, leading to increased capital needs and financing difficulties for enterprises, and increasingly fierce market competition [3]. Meanwhile, enterprises need to continue to cope with multiple pressures such as rapid technology iteration, supply chain cost control and global operation layout [4]. Therefore, it is of great theoretical and practical significance for enterprises to systematically evaluate the effect of strategy execution and sustainable development ability from a financial perspective.

At present, the academic research on new energy automobile enterprises mainly focuses exclusively on the comparison of technical routes, market analysis or financial ratios, but the research based on systematic financial analysis framework and deep integration of enterprise strategy and accounting information to evaluate their long-term competitiveness and risk is still insufficient. In order to make up for this gap, this paper aims to use the Harvard Analysis framework - a systematic approach consisting of strategic analysis, accounting analysis, financial analysis and prospect analysis -- to conduct an in-depth analysis of BYD's financial position and strategy from 2020 to 2024. This study integrates SWOT analysis and Dupont analysis to transcend the limitations of traditional financial ratio analysis, interpret BYD's financial performance from the perspective of strategic driving, and systematically evaluate its advantages, risks and future prospects in the fierce industry competition and policy changes.

2 Strategic Analysis of BYD based on SWOT

As the global sales champion of new energy vehicles, BYD has built its core strengths (S) by virtue of its core technologies such as blade batteries, unique pattern of vertical integration and strong market position. However, the company also faces internal weaknesses (W), including lagging after-sales service capability, historical dependence of profits on government subsidies, and management complexity that may be brought by vertical integration model. In the external environment, the global trend of electrification and intellectualization provides BYD with strategic opportunities (O) for continuous growth and technical expansion, but it needs to cope with the intense competition from various opponents, the rising trade protectionism in the European and American markets, and the multiple threats (T) brought by the rapid technology iteration and cost fluctuation.

3 Accounting Analysis

Based on the analysis of BYD’s financial statements, the following will systematically analyze BYD's implementation of technology-driven, global layout and other strategies, and reveal its specific financial performance.

3.1 Balance Sheet Analysis

Table 1. Summary of BYD's balance sheet 2020-2024 (in billions of CNY)

	2020	2021	2022	2023	2024
Current Assets	111.605	166.110	240.804	302.121	370.572
Non-current Assets	89.412	129.670	253.057	377.426	412.784
Total Assets	201.017	295.780	493.861	679.548	783.356
Current Liabilities	106.431	171.304	333.345	453.667	495.985
Non-current Liabilities	30.133	20.232	39.126	75.419	88.682
Total liabilities	136.563	191.536	372.471	529.086	584.668
Total Shareholder's Equity	64.454	104.244	121.390	150.462	198.688

As shown in Table 1, during the reporting period, BYD's total assets continued to expand rapidly, increasing by nearly three times in five years. The asset structure showed a trend of heavy assets: the proportion of non-current assets increased from 44.5% in 2020 to 52.7% in 2024, mainly caused by massive investment in fixed assets, reflecting the strategic path of scale expansion through capacity investment, but this structure put forward higher requirements on asset turnover efficiency and investment return [1]. At the same time, BYD's intangible assets steadily increased from CNY 11.804 billion to CNY 38.424 billion, showing that early R&D investment has been accelerated into core intellectual property. Among current assets, accounts receivable increased from CNY 41.216 billion to CNY 62.299 billion, which accounted for a large proportion of current assets, indicating that BYD actively adopted a credit sales strategy to expand its market share [5]. Nonetheless, it also brings the potential pressure of capital occupation and bad debt risk [6].

In terms of liabilities and equity, BYD's financing sources are mainly current liabilities, and its percentage in total liabilities and equity shows an increasing trend and remains at a high level: It is about 53.0% in 2020, considerably rises to about 67.5% in 2022, and remains at about 66.8% and 63.3% in 2023 and 2024 respectively. Among them, the share of accounts payable and notes payable continue to rise noticeably, which may support short-term working capital and reduce the comprehensive financing to spur production scale-up. However, over-reliance on such financing may threaten liquidity management and partnership [7]. Non-current liabilities have also grown, but to a lesser extent. In addition, shareholders' equity increased and provided part of the equity capital support for asset expansion. Nevertheless, its growth lagged behind the growth of liabilities, making BYD's financial leverage continue to increase.

3.2 Balance Sheet Analysis

Table 2. Summary of BYD's income statement 2020-2024 (in billions of CNY)

	2020	2021	2022	2023	2024
Operating Revenue：	156.598	216.142	424.061	602.315	777.102
Automobiles and Automobile-related Products：	83.993	128.960	324.480	483.263	617.148
Within China（including Hong Kong, Macao and Taiwan）	53.948	113.063	299.293	410.831	517.410
Outside China	30.045	15.898	25.187	72.432	99.738
Operating Costs	126.251	187.998	351.816	490.399	626.047
Total Profit	6.883	4.518	21.080	37.269	49.681
Net Profit	6.014	3.967	17.713	31.344	41.588

Table 2 shows that regarding profit performance, BYD achieved a leapfrog growth in operating revenue from 2020 to 2024, and its market share increased rapidly, especially after 2021 when the global new energy vehicle market exploded [8]. With respect to the composition of revenue from its automobiles and related products, the share of revenue from Chinese market (including Hong Kong, Macao and Taiwan) has increased markedly from about 64.2% to about 83.8%, demonstrating the core driving role of the in-depth development of the domestic market. Meanwhile, BYD's revenue from overseas markets has more than tripled from 2020 to 2024, showing the company's global layout strategy of relying on the domestic market to establish advantages while steadily developing overseas markets. It should be noted that government subsidies play a key role in supporting the profit level in a specific stage, although the degree of dependence shows an overall downward trend [3].

3.3 Cash Flow Statement Analysis

Table 3. Summary of BYD's cash flow statement 2020-2024 (in billions of CNY)

	2020	2021	2022	2023	2024
Net cash flow from operating activities	45.393	65.467	140.838	169.725	133.454
Net cash flow from investing activities	-14.444	-45.404	-120.596	-125.664	-129.082
Net cash flow from financing activities	-28.907	16.063	-19.489	12.817	-10.268

As presented in Table 3, the net cash flow generated by BYD's operating activities stays positive and substantial, which shows that the main business provides a solid internal financial foundation for growth. Net cash flow from investment activities has been negative for five consecutive years, and the scale of outflow has been increasing year by year, which matches the asset expansion shown in the balance sheet: from 2021 to

2024, BYD has paid a significant increase in cash for the purchase and construction new factories and production lines in many places; Moreover, R&D investment in battery technology and intelligent driving further pushed up the net cash flow of capital expenditure [3]. Financing activities, showing large net inflows in 2021 and 2023, and net outflows in most other years, suggests that BYD also uses capital market financing to supplement funds.

4 Financial Ratio Analysis of BYD based on Dupont Analysis

Table 4. BYD's 2020-2024 Dupont analysis

	2020	2021	2022	2023	2024
Net Profit Margin on Sales (%)	3.84	1.84	4.18	5.20	5.35
× Total Assets Turnover (times)	0.79	0.87	1.07	1.03	1.06
= Return on Total Assets (%)	3.03	1.60	4.49	5.34	5.69
× Equity Multiplier	3.12	2.94	3.50	4.32	4.19
= Return on Equity (%)	9.47	4.70	15.70	23.06	23.82

According to the data provided in Table 4, BYD's return on equity (ROE) has sharply increased from 9.47% in 2020 to 23.82% in 2024, and the overall profitability has been considerably enhanced. This improvement process is mainly divided into two stages: after a brief decline in ROE to 4.70% in 2021, it has accelerated since 2022. 2021 is a key inflection point in performance. The jump in ROE after 2022 is mainly due to the recovery growth of net profit margin on sales and the improvement of equity multiplier, while the total asset turnover remains relatively stable but below the industry average for most years.

The evolution of BYD's profitability is characterized by stages, and the fluctuation of net profit margin on sales is the primary factor leading to changes in ROE. According to Table 2, in 2021, against the background of 38.0% revenue growth, the total profit decreased by 34.3%, and the net profit margin on sales declined from 3.84% to 1.84% during the same period, revealing that BYD once fell into the dilemma of "high revenue and low profit" due to external shocks such as the decline of industry subsidies and the rise of raw material costs, which seriously reduced the ROE of the current period [9]. Conversely, since 2022, the net profit margin on sales has recovered strongly and exceeded the 2020 benchmark for three years in succession. This shows that the company has successfully absorbed previous cost pressure through large-scale production, supply chain optimization and product structure upgrading, which is the core driving force for ROE to recover and reach a new high after 2022.

Table 5. BYD's 2020-2024 operating capacity analysis

	2020	2021	2022	2023	2024
Total Assets Turnover (times)	0.79	0.87	1.07	1.03	1.06

Accounts Receivable Turnover (times)	3.68	5.58	11.30	11.96	12.52
Inventory Turnover (times)	4.43	5.03	5.75	5.76	6.15
Fixed Asset Turnover (times)	3.01	3.73	4.39	3.32	3.15

The total asset turnover steadily increased from 0.79 times in 2020 to 1.07 times in 2022 and remained at a high level of 1.03-1.06 times in the following two years, illustrating the overall improvement trend of BYD's asset operation efficiency. Despite the sharp decline in net profit margin on sales in 2021, total asset turnover increased from 0.79 to 0.87 (Table 5), which played a certain buffering role in the decline in ROE in the current period. With regard to specific asset items, accounts receivable turnover and inventory turnover both continued to increase notably, reflecting BYD's increasing efficiency in working capital management [10]. However, they still lag behind the industry average to a certain extent [1]. The fixed asset turnover declined after 2022, which is related to the recent substantial increase in fixed asset input but the lag of output benefits, and is the main reason for the failure of the total asset turnover to further increase.

Table 6. BYD's 2020-2024 solvency analysis

	2020	2021	2022	2023	2024
Equity Multiplier	3.12	2.94	3.50	4.32	4.19
Current Ratio	1.05	0.97	0.72	0.67	0.75
Quick Ratio	0.75	0.72	0.48	0.47	0.51

The increase in the equity multiplier produces a significant financial leverage effect, amplifying the return on assets created net margin on sales into a higher return on equity. As shown in Table 6, this indicator decreased slightly from 2020 to 2021 and then increased to reach a peak of 4.32 in 2023 and fell moderately in 2024. This change path indicates that companies have used debt financing more actively to support asset expansion after 2021. Meanwhile, the current ratio and quick ratio continue to decline from 2020, both of which have remained below 1 since 2021, demonstrating that short-term liquidity pressure continues to exist. On the contrary, Tesla's asset-liability ratio continued to decline from 2017 to 2023, and its current ratio and quick ratio remained at a high level, suggesting excellent capital structure stability and strong short-term solvency [11]. This reveals that BYD's strategy of using short-term debt to drive growth also magnifies debt repayment pressure and refinancing risk in the face of tightening financing environment or operating cash flow fluctuations.

5 Prospect Analysis and Development Suggestions

From the perspective of development prospects, many core growth indicators of BYD continue to be better than the average level of the industry, showing strong overall growth capacity and sustainable development prospects [10]. In addition, the

improvement in its profitability and effective control of expenses have a positive impact on the company's value [9].

Based on the above analysis, the following targeted development suggestions are proposed for BYD.

First, in terms of capital structure and liquidity management, BYD currently mainly relies on short-term financing to support the financial risk of long-term investment. It is suggested that BYD expands diversified channels such as equity financing and appropriately increases medium- and long-term financing, so as to improve maturity mismatch and provide a sound financial foundation for continuous development. Additionally, it is necessary to strengthen the management of accounts receivable and supply chain capital occupation to control the related financial risks.

Second, focusing on technological breakthroughs and cost control. BYD should continue to optimize the pace of investment and strengthen risk management. While maintaining the advantages of battery technology, the company can keep should increase r research and make development breakthroughs in intelligent driving and other key areas and make up for technical shortcomings through open cooperation. Furthermore, as the fluctuation of the company's profit indicators is still affected by the cost of raw materials and market competition, it is suggested that the company establish a stricter supplier evaluation mechanism, promote the diversification of key raw material procurement and dynamic cost management, in order to enhance the ability of supply chain to resist risks.

Third, with respect to brand building and marketing strategy, BYD can systematically improve the brand image and adopt precise international marketing strategies, giving priority to the world's main consumer markets and intuitively conveying the advantages of products in energy saving, performance and quality through experiential marketing and user community interaction, thereby improving brand awareness and product premium ability and gradually reducing the dependence on government subsidies.

Fourth, deepen ESG development. Positive ESG performance has been proven to effectively enhance corporate value and gain market recognition, and companies should integrate their systems into long-term strategies [12].

6 Conclusion

Based on the Harvard analysis framework, this study systematically analyzes the financial situation of BYD from 2020 to 2024. At the financial level, BYD has achieved significant growth in scale and profitability, and a considerable increase in return on equity (ROE), mainly due to the recovery of net profit margin on sales, the improvement of asset operating efficiency and the use of financial leverage but also exposed the challenges of short-term debt repayment pressure and asset expansion.

At the strategic level, BYD has achieved remarkable results mainly driven by scale and technological innovation, but there is still room for improvement in high-end brand, supply chain resilience and global operation depth. In the future, if BYD can achieve systematic optimization in the dimensions of financial soundness, brand premium, and

balance scale growth and profitability quality, BYD is expected to become a benchmark in the industry with both market leadership and sustainable competitiveness.

References

1. Lin, S.: Financial Report Analysis of BYD Corporation. Frontiers in Business, Economics and Management, **9**(2), 149-152 (2023)
2. JATO Dynamics: BYD outsells Tesla in Europe for the first time as registrations surge in April. JATO Dynamics (2025)
3. Wang, H., He, H., Yang, N.: Analysis of financing issues and strategies for BYD New Energy Vehicle Company. Academic Journal of Business & Management 6(10), 19-24 (2024)
4. Yun, J.: Factors Influencing the Market Share of New Energy Vehicles on China-A Case Study of BYD. Siam University. Bangkok (2023)
5. Qu, M.: BYD Financial Statement Performance Study. Frontiers in Business, Economics and Management **4**(2), 71-78 (2022)
6. Wang, J., Zhang, Y.: Analysis and Optimization Strategies for Corporate Cash Flow Quality-A Case Study of BYD Company. Journal of Global Economic Insights **1**(2), 1-16 (2025)
7. Wang, J., Wang, Y.: A Study on Operating Capital Management Problems and Countermeasures of BYD Company Based on Channel Management. The Development of Humanities and Social Sciences **1**(3), 1-14 (2025)
8. Jia, J., Sun, M.: Research on profitability and improvement strategy of BYD. Economic Research Guide (16), 116-119 (2025)
9. Yan, X., Zhou, Q.: Research on Financial Development Capability of Listed Companies Based on Multiple Regression Model—Take BYD as an Example. Academic Journal of Business & Management **4**(11), 47-56 (2022)
10. Xin, W.: Financial Statement Analysis Processes According Financial Statement Performance of BYD Co., Ltd in China. Asian Journal of Technology & Management Research 14(1), 196-201 (2024)
11. Zhang, W.: Research on International Operation and Performance Evaluation of BYD's New Energy Vehicle Business. Jilin University. Changchun (2025)
12. Gao, L., Niu, Y., Xu, K.: Evaluation of new energy vehicle enterprise value considering ESG factors-taking BYD as an example. Finance and Accounting Monthly **45**(01), 95-101 (2024)

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