

BYD in 2024: Riding the EV Wave or Struggling Through the Competitive Storm?

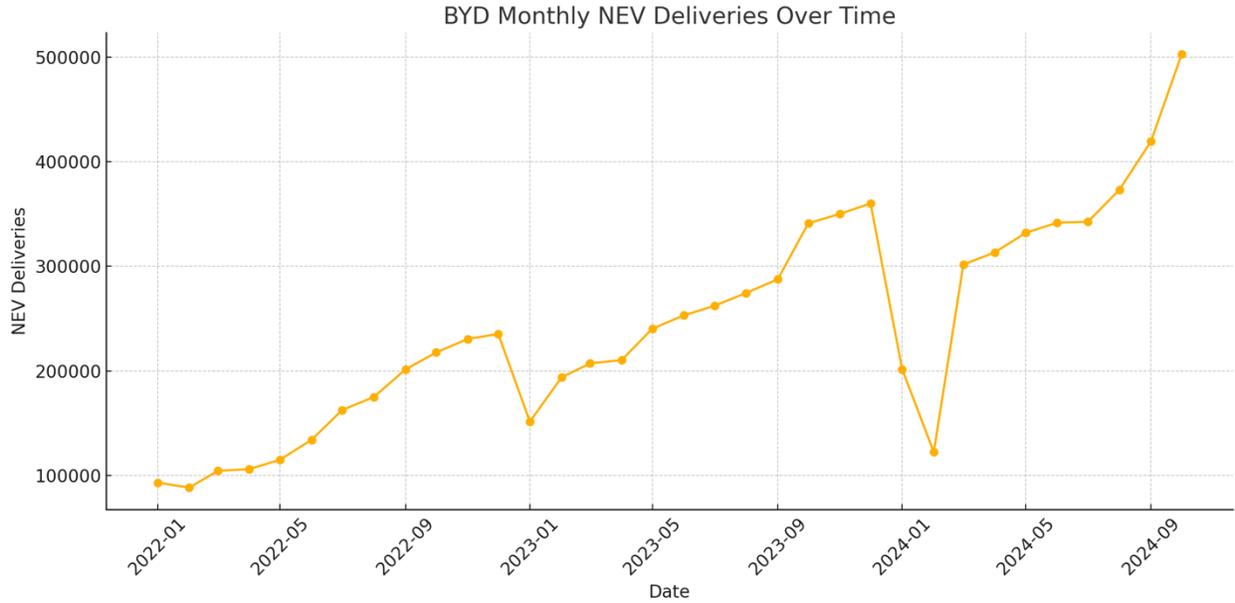
1. Review Historical Performance

BYD has demonstrated remarkable financial growth and operational resilience over the past few years. Revenue has surged from CNY 143.0 billion in 2019 to an estimated CNY 662.6 billion in 2023, underpinned by a robust CapEx strategy focused on expanding production capacity and innovating their product line. Notably, BYD's revenue grew by 24% year-over-year in Q3 2024, outpacing competitors like Tesla and Li Auto. This surge underscores the firm's successful capacity scaling and enhanced market penetration in an increasingly saturated market.

The historical performance of BYD reflects not just growth in numbers but also a consistent focus on long-term strategic goals. One of the core drivers of this financial uptrend has been BYD's deep investment in infrastructure, research, and development, which allowed the company to diversify its offerings in the electric vehicle (EV) segment and cater to a wide spectrum of customers. In addition to increasing revenue, BYD's operational efficiency has led to consistent growth in its market share, with significant improvements in production technology enabling faster and more cost-effective output. This strategic approach has been pivotal for BYD to stay ahead in a highly competitive EV market that is dominated by well-established giants like Tesla and newer but aggressive players such as NIO and Li Auto.

Operating margins have also trended upward, improving from approximately 2.97% in 2020 to 5.88% in 2023, suggesting effective cost management and strategic investments. The fact that BYD managed to maintain margin improvements even as the competitive landscape became more challenging speaks to the company's strength in optimizing both manufacturing and operational expenses. Consistent margin improvements confirm BYD's competitiveness, despite significant industry pressures from rising raw material costs and fluctuating global demand. Record-breaking monthly deliveries, as shown in **Figure 1: BYD Monthly NEV Deliveries Over Time**, further accentuate the company's operational efficiency, highlighting strong market demand and production capabilities.

Figure 1: BYD Monthly NEV Deliveries Over Time



These delivery trends represent BYD's growing ability to meet consumer demand while addressing supply chain challenges. The steady increase in monthly deliveries over time illustrates how BYD has adeptly managed its supply chain, enhanced production capacity, and improved vehicle offerings. Moreover, the growth in NEV (New Energy Vehicle) deliveries positions BYD as a leader in the transition to sustainable transportation.

2. Forecast Future Performance

Future projections for BYD consider both its historical financial trajectory and the evolving market environment. Revenue growth is projected at 10% for 2024, driven by market expansion initiatives and a solid competitive position. From 2024-2028, a compound annual growth rate (CAGR) of 7% is expected, reflecting both the opportunities and the headwinds BYD faces, such as intensified competition and potential tariff impacts.

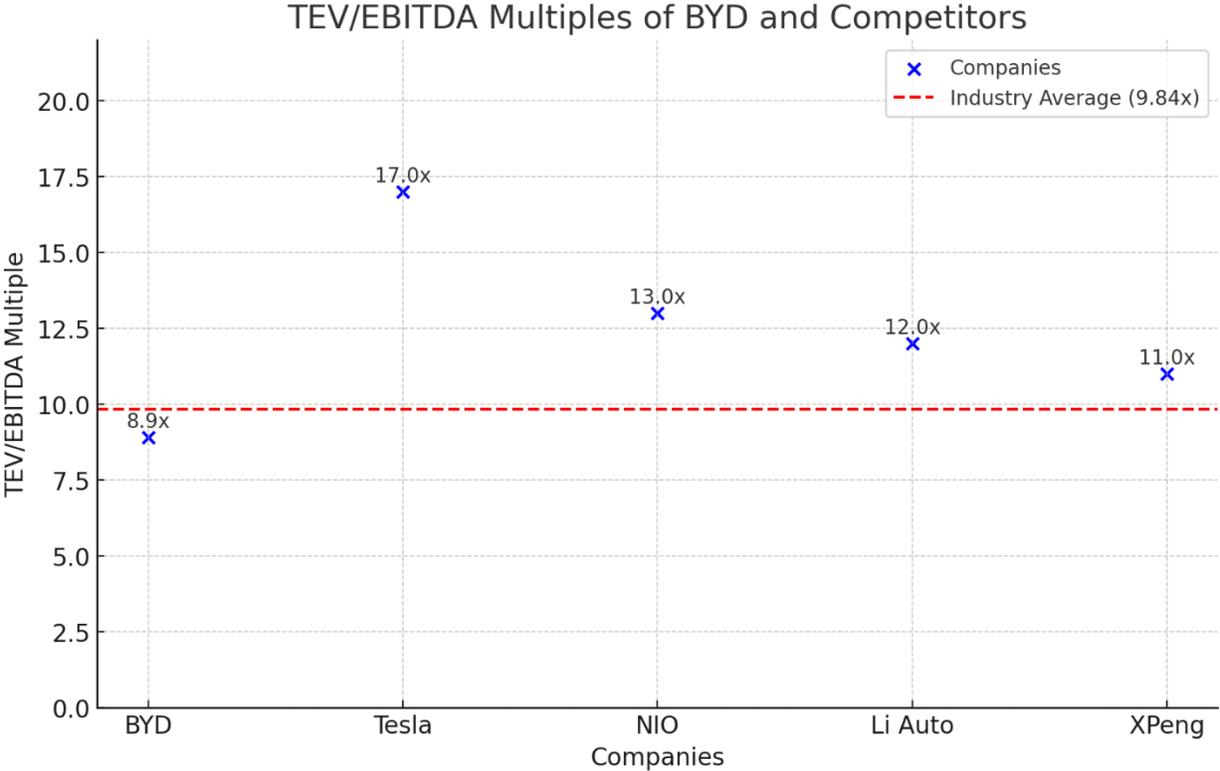
One of the main opportunities for BYD moving forward is the expanding consumer base for electric vehicles globally. Governments around the world are increasingly adopting policies to encourage EV adoption, which provides BYD with new market entry opportunities. The company's focus on producing affordable and reliable electric vehicles makes it uniquely positioned to capture this burgeoning demand, particularly in developing markets where affordability is key. Moreover, BYD's emphasis on a diversified product line, from compact urban vehicles to luxury EVs, ensures that it caters to a wide variety of customer needs.

Operating margins are projected to stabilize around 7% by 2028, benefiting from economies of scale and ongoing cost optimizations, particularly through European manufacturing investments. The ongoing expansion into the European market, which includes establishing new production facilities, is crucial for achieving these projected margins. European operations are expected to bring about efficiencies in logistics and production, thereby reducing costs and enhancing BYD's competitiveness in this high-value market. The valuation models indicate a target pre-tax operating margin of 7.75%, and achieving this goal will require BYD to focus on technological innovations that can streamline manufacturing processes, reduce costs, and improve vehicle performance.

Sales to capital ratios, key efficiency metrics, are expected to start at 1.2 and improve to 1.6 in subsequent years, signaling better capital utilization as BYD's infrastructure matures and market strategies solidify. Effective capital deployment is integral to maintaining growth momentum. This improved ratio is indicative of the company's evolving strategy of not just expanding physical production capabilities, but also investing in technology that maximizes returns on those investments.

The chart **Figure 2: TEV/EBITDA Multiples of BYD and Competitors** provides additional insight into BYD's relative valuation compared to its peers. With a TEV/EBITDA multiple of 8.9x, BYD is valued below the industry average of 9.84x, suggesting potential upside compared to competitors like Tesla and NIO.

Figure 2: TEV/EBITDA Multiples of BYD and Competitors



The TEV/EBITDA multiple analysis emphasizes BYD's potential as an undervalued player within the industry. Compared to Tesla, whose multiple is considerably higher, BYD offers a more balanced risk-reward profile for investors. Tesla's higher multiple may reflect its strong brand and higher growth expectations, but BYD's lower valuation suggests more room for appreciation as the company continues to strengthen its financial metrics and global presence.

3. Sensitivity Analysis

Sensitivity analysis reveals strong resilience in BYD's valuation under different scenarios. Key assumptions include:

- Gross revenue growth ranging between 5%-12% annually.
- Operating margins fluctuating between 6%-8%.

BYD Valuation Sensitivity Analysis

Revenue Growth \ Operating Margin	6%	6.5%	7%	7.5%	8%
5%	417.54	424.02	430.51	436.99	443.47
6%	420.87	427.41	433.96	440.50	447.05
7%	424.20	430.80	437.41	444.02	450.63
8%	427.53	434.19	440.86	447.53	454.20
9%	430.85	437.59	444.32	451.05	457.78
10%	434.18	440.98	447.77	454.56	461.35
11%	437.51	444.37	451.22	458.07	464.93
12%	440.84	447.76	454.67	461.59	468.50

The sensitivity analysis is particularly useful in understanding how different market dynamics could impact BYD's future performance. Even under conservative estimates of 6% revenue growth and a 6% operating margin, BYD's valuation remains favorable compared to current market expectations. This resilience is largely attributed to BYD's diversified product portfolio, efficient production methods, and strong presence in both domestic and international markets. The strategic focus on cost control and market expansion buffers against downside risks.

BYD's ability to adapt to various scenarios also hinges on its deep understanding of the local markets it operates in, and its agility in modifying product lines or cost structures to meet changing consumer demands. As competition intensifies, maintaining profitability will require BYD to be proactive in managing costs, innovating on the product front, and finding new ways to appeal to customers in both established and emerging markets.

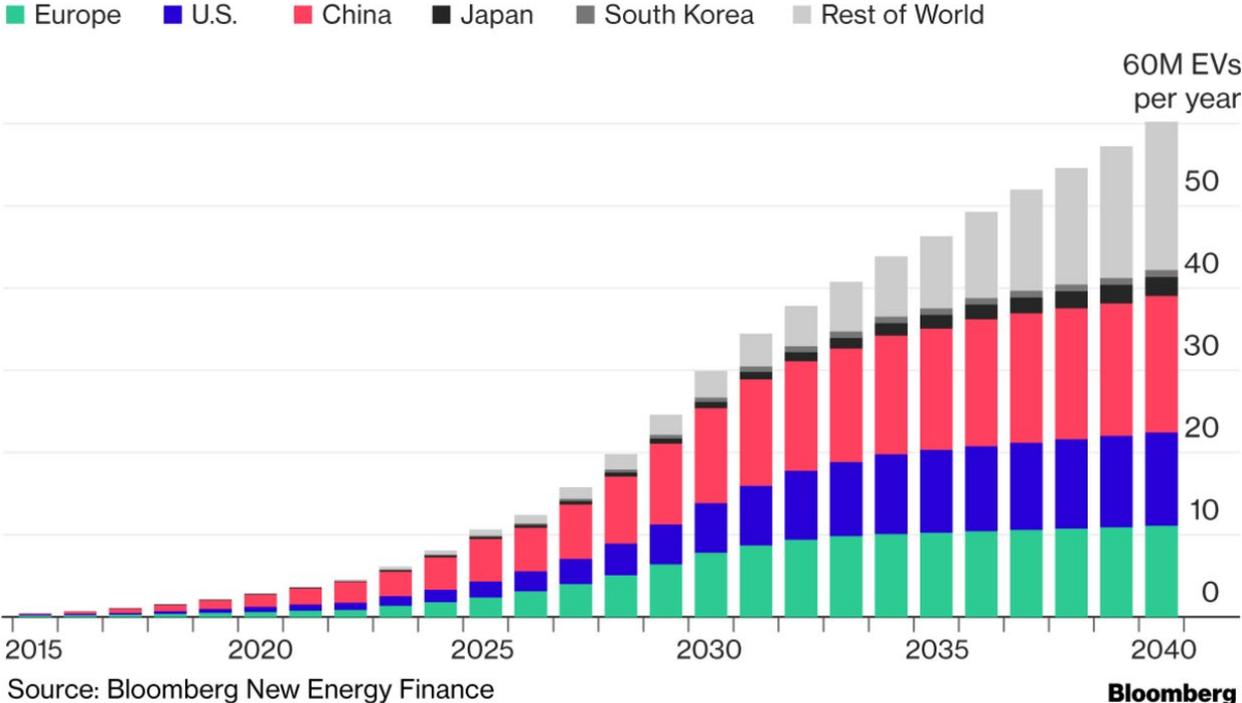
4. Macro-Economic Factors

Broader macro-economic factors are pivotal in assessing BYD's valuation. Interest rates at 4.37% and an initial cost of capital of 8.89% represent a cautious yet stable investment climate. Intense price competition within the EV sector, alongside geopolitical factors like EU tariffs and North American trade policies, will necessitate strategic agility from BYD.

The macro-economic environment also includes fluctuating currency exchange rates, raw material price volatility, and shifting trade dynamics, all of which could affect BYD's cost structure and profitability. For example, increased tariffs on Chinese imports into Europe could have a significant impact on BYD's bottom line. The company's investment in localized production in Europe is a strategic move to mitigate this risk, ensuring that it can still be competitive even in the face of challenging trade policies.

The chart **Figure 3: Global Electric-Car Revolution Set to Take Off** highlights the projected growth in global EV adoption, with China leading the market. This growth trend presents significant opportunities for BYD to expand internationally, particularly in Europe and other emerging markets.

Figure 3: Global Electric-Car Revolution Set to Take Off
Off
Global Electric-Car Revolution Set to Take Off
 China set to lead EV market



The global EV growth trajectory, as illustrated in Figure 3, signifies that the demand for electric vehicles will continue to grow across all regions, with China being at the forefront. This is driven by strong policy support, subsidies, and rapid advancements in EV technologies within China. For BYD, which already holds a leading market position in China, leveraging this growth to expand into new regions will be critical. In particular, BYD's focus on cost-effective and highly efficient vehicles will resonate well with new customers looking to make the switch to electric mobility.

BYD's targeted investments in European manufacturing are a key component of its strategy to counteract tariff impacts and capitalize on local advantages. These investments, coupled with ongoing strong performance despite both internal and external pressures, position BYD favorably for future growth amidst a challenging global EV landscape. Europe, as a market, is critical for BYD due to its stringent emission regulations and growing consumer demand for greener alternatives. By investing in localized production, BYD not only reduces its exposure to trade-related risks but also aligns itself with regional consumer preferences, thus strengthening its market position.

5. Valuation Analysis

The valuation of BYD has been meticulously modeled, considering both the projected revenues and operating income over the next decade. The table below presents the estimated valuation inputs, taking into account expected revenue growth rates, EBIT margins, and reinvestment needs.

Base year	Next year	Years 2-5	Years 6-10	After year 10
Revenues (a)	\$682,291.83	10.0%	7.00%	Changes to 4.37%
Operating margin (b)	5.88%	5.0%	Moves to 6.67%	7.00%
Tax rate	17.07%		17.07%	Changes to 25.00%
Sales to Capital (c)		1.20	1.20	1.60
Return on capital	35.39%	7.94%		8.70%
Cost of capital (d)		8.89%		8.70%

These valuation inputs are crucial to understanding BYD's trajectory and tie directly into the broader narrative of the company's growth potential and market strategy. The revenue growth rate is expected to start strong at 10% next year, supported by continued expansion and penetration into international markets. However, over time, as the market matures and competition intensifies, the growth rate gradually declines to 4.37%, indicating a shift from aggressive expansion to more stable and sustainable growth.

The operating margin is expected to improve from 5.88% to 7.00% after Year 10, showcasing BYD's success in achieving greater economies of scale and operational efficiency through strategic investments in technology and localized production. This links to the story of cost optimization efforts and geographical expansion, which help mitigate pressures such as rising costs and geopolitical risks.

Tax rate changes from 17.07% to 25.00% after Year 10, reflecting the evolving tax landscape as BYD increases its presence in more developed markets where tax rates tend to be higher. The rise in tax obligations is an important consideration for BYD, especially as it aims to achieve profitability while expanding its global footprint.

The Sales to Capital ratio is projected to improve to 1.60 after Year 10, reflecting better capital utilization as a result of BYD's efficient reinvestment strategies. By focusing on expanding capacity while ensuring that capital investments yield optimal returns, BYD is poised to maintain a healthy growth trajectory. This aligns with the broader story of BYD maturing as a global automaker that successfully balances growth and capital efficiency.

The return on invested capital (ROIC) is initially high at 35.39% but is expected to normalize to a marginal ROIC of around 8.70%. This pattern is typical for companies transitioning from high-growth phases to more stable growth phases. The declining ROIC is balanced by a lowering cost of capital from 8.89% to 8.70%, indicating improving risk management and reduced cost of financing as BYD establishes itself firmly in global markets.

The terminal value was estimated at \$806,707.13 million, discounted to its present value of \$346,027.61 million. With a cumulative present value of cash flows over the next decade at \$41,092.37 million, the total estimated value of operating assets comes to \$387,119.98 million. After adjusting for debt of \$46,886.03 million and adding non-operating assets, including cash holdings of \$91,734.52 million, the estimated value of BYD's equity amounts to \$461,817.08 million. With 1,098 shares outstanding, the estimated value per share stands at \$420.60, significantly higher than the current trading price of \$253.60, implying that the market undervalues BYD's equity at just 60.3% of its estimated intrinsic value.

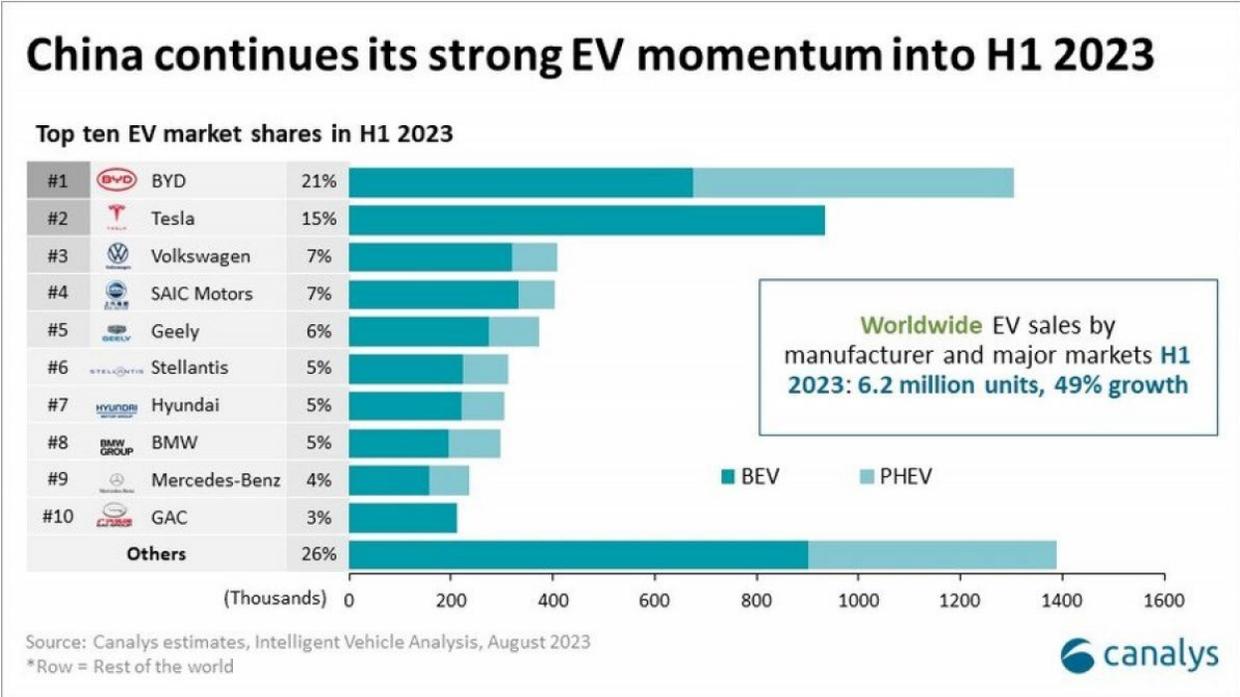
Strategic Investments and Market Expansion

BYD's expansion into Europe through new manufacturing facilities is critical for its long-term growth. These investments aim to mitigate the impact of EU tariffs on Chinese EVs, enhancing BYD's position in the European market. BYD's focus on showcasing advanced EV models at international auto shows, despite geopolitical headwinds, underscores its commitment to innovation and market leadership.

Furthermore, BYD's strategic investments are not limited to infrastructure alone; they also encompass R&D for vehicle technology, battery efficiency, and autonomous driving capabilities. By pushing the boundaries of technology, BYD aims to offer vehicles that are not just affordable but also state-of-the-art in terms of features and performance. Efforts to localize production through partnerships and joint ventures reflect a forward-looking approach to globalization. This strategy not only reduces operational costs but also aligns BYD with regional regulations, facilitating smoother market entry and expansion. With sustained focus on technological innovation and cost management, BYD is well-positioned to capture significant market share in both developed and emerging markets.

The chart **Figure 4: China continues its strong EV momentum into H1 2023** provides insight into BYD's market leadership, with a 21% share of the Chinese EV market in H1 2023. This dominant position is critical for maintaining momentum as BYD expands its international footprint.

Figure 4: China continues its strong EV momentum into H1 2023



BYD's success in China, as highlighted in Figure 4, forms a strong foundation for its global ambitions. China remains the largest market for electric vehicles, and BYD's leadership there means it can leverage scale, brand recognition, and consumer trust to accelerate its expansion in other regions. Moreover, the company's product mix, which includes both battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs), allows it to cater to varied market requirements, further strengthening its market positioning.

Competitive Landscape and Market Dynamics

However, BYD faces a fiercely competitive landscape, particularly in China, where price wars are putting pressure on margins. The push for supplier cost reductions across the industry could threaten profit stability. To maintain its edge, BYD will need to uphold stringent cost controls while continuing to innovate and deliver value to its customers.

The competition in the Chinese EV market is characterized by aggressive pricing strategies, with companies like NIO, XPeng, and others offering significant discounts to gain market share. This environment creates downward pressure on prices, impacting margins. Despite these challenges, BYD has managed to remain profitable by focusing on cost-efficient production processes and leveraging economies of scale. However, to maintain its competitive advantage, the company will need to continue to innovate not only in vehicle technology but also in its approach to cost management and supplier negotiations.

BYD's position in the global market also presents both opportunities and challenges. As other automakers ramp up their EV production capabilities, BYD must differentiate itself through superior technology, battery efficiency, and pricing strategies that make its vehicles attractive across different customer segments. The push towards autonomous driving and connected car technologies is another area where BYD can build an advantage, but it will require substantial investments in R&D and strategic partnerships.

The evolving regulatory landscape is another dynamic that BYD must navigate carefully. With different countries setting varying emissions standards and offering different levels of subsidies and incentives for electric vehicles, a one-size-fits-all strategy will not suffice. BYD's ability to adapt to each market's unique requirements—through localized production, tailored product offerings, and strategic alliances—will be key to its success in expanding its global footprint.