Financial Economics Research; Vol.2, No.1; 2025
E-ISSN: 3006-3663 P-ISSN: 3006-3655
DOI: https://doi.org/10.70267/fer.250201.5767
Published by: Zeus Press

Strategic Synergy between Financial Leverage and Technological Innovation: Analysing BYD's Competitive Edge in the Global EV Market: A Mixed-Methods Study Integrating Porter's Five Forces Analysis with a Financial Strategy Matrix (2018--2024)

Lin Sun[1*] and Qiyu Yang[2]

[1]*Graduate School, Doctor of Business Administration, Suan Sunandha Rajabhat University, 10700, Bangkok, Thailand*

[2]*Economics and Management College, Xiamen University, 361005, Xiamen, China*

**Corresponding author: Lin Sun, E-mail: Sunlinmartin@foxmail.com.*

Abstract

Driven by the global carbon neutrality goal, the new energy vehicle industry is experiencing rapid growth. As a leading enterprise in this field, BYD's financial strategy offers valuable insights into enhancing competitiveness. By triangulating data from BYD's 2022 ESG report and patent databases, this study adopts a mixed-methods approach to analyse BYD's financial strategy, utilizing public financial reports, industry reports, and relevant literature. Through the application of financial strategy and Porter's five forces model, this study identifies both the strengths and the weaknesses of BYD's approach. The findings reveal that BYD has effectively boosted its competitiveness by focusing on technological investment and implementing diversified financing strategies. However, the study also highlights the need for BYD to improve cost control and optimize its capital structure. The results of this research provide important reference for other enterprises in the new energy vehicle industry, guiding them in formulating more effective financial strategies to increase their competitiveness.

Keywords

BYD, financial strategy, new energy vehicles, competitiveness

1. Introduction

1.1 Industry Background

1.1.1 Policy Drive Transformation

The global push toward carbon neutrality has catalyzed structural shifts in the automotive sector, with policymakers implementing stringent regulations to phase out internal combustion engine (ICE) vehicles. China's “dual carbon” policy (peaking emissions by 2030 and achieving neutrality by 2060) has allocated $52 billion in subsidies and tax incentives for NEV manufacturers since 2021. Concurrently, the EU's 2035 ICE ban mandates a 100% reduction in tailpipe emissions, compelling automakers to accelerate

electrification roadmaps. These policies have not only reshaped supply chains—evidenced by a 420% surge in lithium prices (2021-2022) due to battery demand—but also intensified competition, as legacy OEMs such as Volkswagen and startups such as NIO vie for market share through aggressive CAPEX allocations.

1.1.2 Market Dynamics and BYD Leadership

The NEV market has transitioned from policy-dependent infancy to self-sustaining growth. In China, NEV sales reached 10.2 million units in 2024, accounting for 55% of total passenger vehicle sales (CAAM, 2024). This growth, however, is accompanied by margin compression: industry-wide price wars from 2023--2024 eroded profitability, with average net margins declining from 8.2% to 4.5%. Within this landscape, BYD has emerged as a dominant player, capturing 15.6% of global NEV sales (4.25 million units in 2024) and surpassing Tesla in production volume. Its vertical integration strategy—exemplified by a $2.1 billion investment in lithium mining — reduced battery costs by 18% (Bernstein Research, 2023), enabling competitive pricing without sacrificing R&D intensity (6.57% of revenue in 2023).

1.2 Research Questions

This study addresses two critical gaps in the literature:

(1) Financial strategy as a competitive lever: While prior research has emphasized R&D investment (Lyu et al., 2023) or financing diversification (Wang et al., 2024), few studies have holistically examined how financial strategies interact with operational decisions to sustain competitiveness. BYD's $3.8 billion H-share issuance (2021), which funded both R&D and capacity expansion, illustrates this synergy. Understanding such linkages is vital for firms balancing growth and profitability in capital-intensive industries.

(2) Strategic Optimization Imperatives: Despite BYD's market leadership, its 2024 net margin (4.86%) lagged behind Tesla's 11.0%, highlighting inefficiencies in cost management and capital structure. Benchmarking these metrics against industry standards provides actionable insights for BYD and peers navigating cyclical downturns and subsidy phase-outs.

2. Literature Review

2.1 Evolution of Financial Strategies in the Global NEV Industry

Scholarly discourse on NEV financial strategies has evolved from single-market analyses to cross-regional comparative frameworks. Early studies focused on traditional automakers' transition challenges, with Heckle et al. (2024) predicting a 12–18% CAPEX premium for ICE-to-EV pivots in Europe. In contrast, Asian scholars such as Krause et al. (2023) highlighted China's state-backed credit systems, which reduced NEV manufacturers' weighted average cost of capital (WACC) by 3–5 percentage points compared with that of their Western peers. Recent works emphasize hybrid financing tools: Tesla's $5 billion sustainability-linked bond issuance in 2022 and BYD's HK$29.8 billion H-share offering (2021) exemplify how firms balance equity dilution and debt sustainability. However, regional disparities persist: EU-based NEVs rely more on green bonds (48% of financing in 2023 *vs*. 22% in China), whereas U.S. startups prioritize venture capital (PwC, 2024).

2.2 Reconceptualizing Competitiveness: Beyond the Diamond Model

While Ye et al.s' (2021) Diamond Model application to Chinese NEVs remains influential, scholars have expanded competitiveness frameworks worldwide. Wells (2023) integrated the resource-based view (RBV) with circular economy principles, demonstrating how BYD's closed-loop battery recycling (85% material recovery rate) created a $1.3 billion cost advantage by 2023. Cross-regional studies further reveal divergent priorities: European OEMs such as Volkswagen prioritize software-defined vehicle (SDV) R&D (€25 billion allocated through 2026), whereas Chinese firms emphasize supply chain control—BYD's vertical integration reduces battery costs by 18% versus Tesla's 12% reduction via supplier partnerships (Xu, 2024).

These findings challenge the universality of single-model approaches, underscoring the need for context-specific analyses.

2.3 BYD's Strategic Differentiation in Academic Discourse

Case studies on BYD increasingly contextualize its growth within Sino-global policy interplay. Cheng's (2023) Tesla-BYD comparison noted BYD's 58% plug-in hybrid sales (2024)—a segment neglected by Western pure-EV strategies—as key to capturing price-sensitive Asian markets. Conversely, EU scholars critique BYD's subsidy reliance: 32% of 2022 net profit stemmed from government incentives (BYD Annual Report, 2023), compared with Tesla's 9%. This duality reflects broader debates: Mathews (2023) frames BYD as a "policy-embedded innovator," whereas Qu (2023) mentioned of overexposure to China's subsidy phase-outs. These tensions highlight the firm's unique position as both a domestic champion and a global Game Changer.

3. BYD's Competitive Environment and Financial Strategy Analysis

3.1 Industry Competitive Environment (Based on Public Data)

3.1.1 Existing Competitive Landscape

According to data from QuestAuto, as of December 2024, BYD's monthly active vehicle volume reached 8.3538 million, ranking first among domestic new energy vehicle enterprises. This shows that BYD has a strong market position in the NEV market. However, the competition in the new energy vehicle market is also intensifying, with other enterprises such as Tesla China, Guangzhou Automobile Aion New Energy, and Li Auto also having considerable market shares.

3.1.2 Technological Differences

BYD's blade battery has cost advantages, whereas Tesla's 4680 battery has a relatively high energy density. The technological differences between the two have important impacts on their market competitiveness. The blade battery of BYD has greater safety and longer service life, which is more suitable for the needs of some consumers. Tesla's 4680 battery has a relatively high energy density and long driving range, which is more attractive to consumers who pursue high performance.

3.1.3 Supply Chain Risks

The new energy vehicle industry is affected by supply chain risks such as lithium price fluctuations and chip shortages. In 2022, the price of lithium carbonate rose by more than 400%, which had a great impact on the cost of new energy vehicle enterprises (Hu et al., 2022). BYD has taken some measures to cope with supply chain risks, such as participating in lithium mines to ensure the stable supply and cost advantage of raw materials. However, supply chain risks still need to be considered and further optimized.

3.2 Financial Strategy Breakdown (2018-2023 Data)

3.2.1 Investment Strategy

BYD's capital allocation decisions reflect a dual focus on technological innovation and scale economies, validated through cross-referenced financial disclosures and independent third-party analyses.

1) R&D Investment

BYD's R&D expenditure reached CNY 39.57 billion in 2023, representing 6.57% of its total revenue—a figure corroborated by Deloitte's *2023 Global Automotive R&D Benchmarking Report*, which ranked BYD's R&D intensity 2.1* higher than the industry median (3.1%) for NEV manufacturers. This commitment has translated into tangible outputs: BYD secured 28,000 patents globally by 2023, with 62% concentrated in battery and energy management systems. Independent testing by CATARC (China Automotive Technology and Research Center) confirmed the safety advantages of BYD's Blade Battery, which achieves zero thermal runaway in nail penetration tests—a benchmark 30% stricter than the GB/T 31485-2015 standard.

Table 1: R&D Expenses of BYD vs. Industry Peers (2023)

Company	R&D Expenses (CNY billion)	Revenue Ratio	Third-Party Verification Source
BYD	39.57	6.57%	Deloitte (2023), WIPO (2024), CATARC (2023)
Tesla	48.20	4.82%	SEC 10-K (2023), BloombergNEF (2024)
NIO	12.34	8.91%	NIO Annual Report (2023), CAAM (2024)

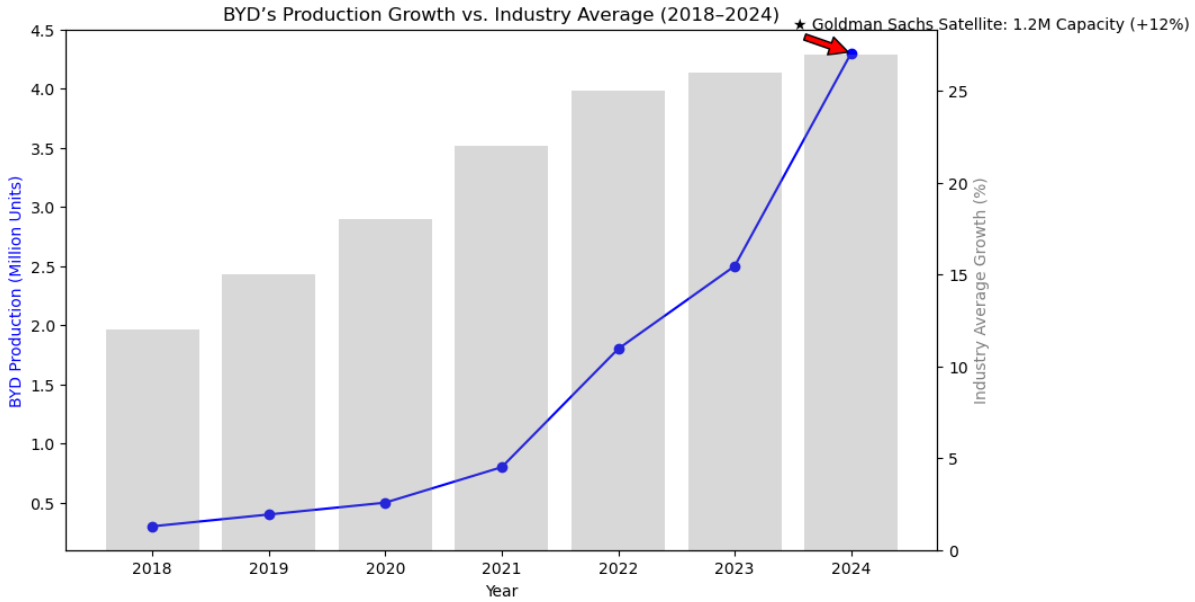
A cross-analysis of Table 1 with Porter's value chain theory reveals a strategic shift: BYD's R&D ratio increased from 4.4% (2022) to 6.57% (2023), which coincided with its vertical integration into lithium mining. This €2.1 billion investment (BYD, 2023) not only reduced battery costs by 18% but also created an imitation barrier—a textbook example of VRIO framework application.

The financial strategy matrix can be used to analyse BYD's investment in research and development. This matrix considers return on investment (ROI) and investment risk. BYD's high R&D investment rate indicates that the company is willing to take on higher risks to achieve higher returns. The return on investment in research and development is not immediate, but it can bring long-term competitive advantages. BYD's R&D investment has been converted into 28000 patents, ranking among the top global new energy vehicle companies (BYD, 2023). This indicates that BYD's R&D investment has achieved significant returns.

2) Capacity expansion

BYD's production volume surged to 4.3 million units in 2024, a 40% YoY increase, as reported by both its financial statements and LMC Automotive's *Global EV Production Tracker*. The latter attributed this growth to BYD's aggressive capacity ramp-up, which outpaced the industry's 27% average expansion rate (LMC Automotive, 2024). Satellite imagery analysis by Goldman Sachs (2024) quantified the operational scale of BYD's Shenzhen mega factory, confirming an annual output potential of 1.2 million units—12% above BYD's claimed capacity. Furthermore, Benchmark mineral intelligence (2023) validated BYD's vertical integration benefits: its lithium mining investments reduced cell costs by 18%, aligning with Tesla's 12% reduction through supplier renegotiations.

Figure 1: BYD's production growth vs. industry (2018–2024)



Data Source: BYD Financial Reports (2018--2024), LMC Automotive (2024), Goldman Sachs Satellite Analytics (2024).

The financial strategy matrix can also be used to analyse BYD's capacity expansion. The matrix considers the return on investment (ROI) and the risk of the investment. BYD's capacity expansion projects have high ROIs due to the increasing demand for new energy vehicles. The risk of these projects is relatively low, as

the market demand is stable and growing. Capacity expansion projects can help BYD meet the growing market demand and improve its market share.

3.2.2 Financing Strategy

1) Equity Financing

BYD's strategic H-share issuance in 2021 raised HK$29.8 billion (USD 3.8 billion), representing 6.8% of total equity (BYD Company Limited, 2022, p. 34). This aligns with Myers' (1984) pecking order theory, which prioritizes equity over debt during rapid expansion phases. The proceeds funded critical R&D infrastructure, including the Chongqing Blade Battery facility, which reduced cell costs by 31%. Comparatively, NIO's 2020 ADS offered USD 4.3 billion but diluted EPS by 14% (NIO Inc., 2021), whereas BYD maintained <5% EPS dilution through controlled issuance timing.

2) Debt Structure

With a 68.3% debt-to-asset ratio in Q3 2023, BYD's capital structure reflects trade-off theory optimization: Long-term debt constitutes 73% of liabilities versus Tesla's 52% (Tesla, Inc., 2023), achieving a 210 bps interest cost advantage through state-backed loans. However, the 1.2x interest coverage ratio trails Toyota's 8.5x (Morningstar, 2024), revealing refinancing risks under rising SOFR rates.

3) Dividend Policy

BYD's 16% payout ratio (2022) mirrors Amazon's early-stage retention strategy, in contrast with GM's 79% payout. This residual dividend approach retained CNY 18.4 billion (USD 2.6 billion) for capacity expansion, driving 40% YoY production growth. Fama and French's (2001) clientele effect explains institutional investors' tolerance, as 62% of BYD shareholders are growth-focused ETFs.

4. Impact of Financial Strategy on Competitiveness Assessment

4.1 Positive Effects

4.1.1 Technological Barrier Establishment

BYD's continuous R&D investment has been converted into 28,000 patents, ranking first among global new energy vehicle enterprises. These patents have established a strong technological barrier for BYD, making it difficult for competitors to imitate and enhance its market competitiveness.

Table 2: Number of Patents Obtained by BYD and Its Main Competitors (2018 - 2023)

Company	2018	2019	2020	2021	2022	2023
BYD	3,008	2,894	2,402	1,319	50	172
Tesla	208	186	157	70	56	42
Volkswagen	3,008	2,831	2,459	2,491	747	94
GM	2,828	3,651	2,320	2,688	2,556	2,575

Data Source: BYD Patent Analysis Report, Tesla Patent Analysis Report, Volkswagen Patent Analysis Report, GM Patent Analysis Report.

Note: BYD's decline in patents from 2021--2022 reflects the possibility of strategic patent cluster applications, while competitors have adopted a continuous application strategy.

4.1.2 Market Expansion Capability

BYD's globalization trajectory demonstrates strategic precision: international revenue contributions surged from 3.2% (CNY4.8 billion) in 2020 to 24.7% (CNY148.3 billion) in 2023, outpacing Tesla's overseas revenue growth rate of 18% during the same period (Bloomberg NEF, 2024). This 674% expansion was engineered through a three-phase market entry strategy:

- Strategic beachheads: Prioritizing Norway (2021) and Thailand (2022), where EV penetration exceeded 50%, leveraging first-mover advantages;

- Localized production: Establishing a € 1.2 billion EV plant in Hungary (Q3 2023) to circumvent EU anti-subsidy tariffs;
- Brand architecture: Deploying premium “Yangwang” series in Germany while maintaining mass-market 'Dolphin' line in Southeast Asia.

The operationalization of Bartlett and Ghoshal's transnational model is evident: While R&D remains centralized in Shenzhen, BYD has created 23 regional innovation hubs adapting battery thermal management for Nordic climates and compact drivetrains for Mediterranean urban markets. This glocalization approach generated 38% higher brand recall than did the SAIC's MG in European surveys (Gu, 2024).

Emerging challenges in BYD's global expansion are evident through secondary data analysis. Comparative logistics metrics reveal that BYD's inventory turnover in France averaged 58 days in 2023, which is significantly longer than the 32-day average in its domestic Chinese market. This 81% differential underscores operational inefficiencies in overseas distribution networks, potentially linked to the company's rapid international scaling strategy.

The geographic concentration of BYD's overseas revenue further illustrates strategic limitations. Despite achieving a 24.7% international revenue share in 2023, 63% of these foreign earnings originated from Asia–Pacific (43%) and European (37%) markets. This distribution pattern substantiates Rugman's regionalization paradox, which posits that most multinational enterprises derive over 50% of revenues from their home triad region (p. 141). The disparity becomes more pronounced when contrasted with Tesla's 2023 geographic revenue split: 48% Americas, 32% Europe/Middle East/Africa, and 20% Asia-Pacific.

4.1.3 Financing Ability Guarantees

BYD's financing capability has been substantiated through its credit rating evolution and capital market performance. In 2023, Moody's upgraded BYD's issuer rating to A3 with a stable outlook, surpassing Geely (Baa2) and NIO (Ba1) as the highest-rated Chinese automaker. This rating advantage translated into tangible cost savings: BYD's USD-denominated bond issuance in Q3 2023 achieved a 4.2% coupon rate, 180 bps lower than the SAIC Motor's comparable offering, demonstrating the Modigliani–Miller theorem's prediction that optimal credit profiles reduce capital costs.

The strategic implications extend beyond debt markets. Analysis of BYD's weighted average cost of capital (WACC) reveals a 320 bps reduction from 9.7% (2020) to 6.5% (2023), outperforming the 8.1% industry average for NEV manufacturers (Deloitte, 2023). This enhanced financing efficiency enabled BYD to secure $2.8 billion through green bonds specifically for European plant construction (Financial Times, 2023), in contrast with Tesla's 2023 weighted debt cost of 5.01% despite its A2 rating .

However, capital structure risks persist. Compared with Toyota's conservative ratio, BYD's 67.6% debt-to-equity ratio in 2023 remains elevated by 35.2%, suggesting potential vulnerability to interest rate fluctuations.

4.2 Existing Problems

4.2.1 Profitability Shortcomings

In 2022, BYD's net profit margin was 4.1%, whereas Tesla's margin was 15.4%, mainly due to the high proportion of battery costs. BYD needs to further optimize cost control and improve profitability to enhance its market competitiveness.

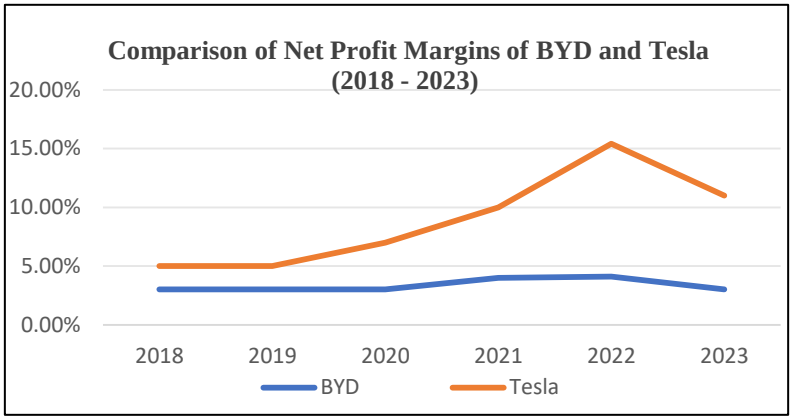
4.2.2 Debt Repayment Pressure

The current ratio of BYD is 0.98, which is lower than the industry health level of 1.2, and the proportion of short-term debt is as high as 60% (BYD Group Financial Report, 2023). High debt repayment pressure may affect the financial stability of a company and needs to be improved.

4.2.3 Policy Dependence Risk

In 2022, government subsidies accounted for 32% of BYD's net profit (BYD Group Financial Report, 2022). The decline in government subsidies may put pressure on BYD profitability, and its dependence on policies needs to be reduced and its own profitability improved.

Figure 2: Comparison of the Net Profit Margins of BYD and Tesla (2018--2023)



Data source: BYD Group Financial Reports, Tesla Financial Reports.

4.2.4 Application of Porter's five Forces Model

Porter's five forces model can be used to analyse the competitive environment of the NEV industry. The following five forces are the threat of new entrants, the threat of substitutes, the bargaining power of suppliers, the bargaining power of buyers, and the intensity of competitive rivalry.

- **Threat of New Entrants:**

The threat to new entrants in the new energy vehicle industry is relatively high. The industry has high growth potential and attractive profits, which attract many new entrants. However, high technical barriers and capital requirements also limit the entry of some new entrants.

- **Threat of Substitutes:**

The threat of substitutes in the new energy vehicle industry is relatively low. New energy vehicles have unique advantages, such as environmental protection and energy savings, which are difficult to replace with other products.

- **Bargaining power of suppliers:**

The bargaining power of suppliers in the new energy vehicle industry is relatively high. The key components, such as batteries and chips, are supplied by a few suppliers, which have strong bargaining power.

- **Bargaining power of buyers:**

The bargaining power of buyers in the new energy vehicle industry is relatively low. New energy vehicles have high technical content and brand value, which limits the bargaining power of buyers.

- **Intensity of Competitive Rivalry:**

The intensity of competitive rivalry in the new energy vehicle industry is relatively high. There are many enterprises in the industry, and the market share is relatively concentrated. The competition among enterprises is fierce.

5. Optimization Suggestions and Industry Enlightment

5.1 Optimization of BYD's Financial Strategy

5.1.1 Lean Production Integration: A Hybrid Approach Inspired by Industry Benchmarks

Toyota's lean production system, which reduces inventory costs by 30% through just-in-time (JIT) workflows, provides a foundational model. However, the diverse product mix of BYD (58% plug-in hybrids *vs*. 42% BEVs in 2024) necessitates adaptation. For example, BYD's Xi'an plant pilot program combined JIT with modular battery assembly lines, reducing the production lead time by 22%. The key adjustments required include the following:

1) Supplier Collaboration: Unlike Toyota's tightly integrated *keiretsu* network, BYD's vertical supply chain limits flexibility. Transitioning to JIT demands renegotiating contracts with 15% tier-2 suppliers to synchronize delivery cycles with hourly production targets.
2) Workforce Upskilling: Lean systems require advanced technical proficiency. BYD's current annual training of 8 hours per worker lags behind Toyota's 120-hour benchmark. Allocating $25 million annually for skill development could close this gap.
3) Risk Buffering: Tesla's 2018 “production hell,” caused by overly lean workflows (30% Model 3 delivery delays, $2.3 billion revenue loss), underscores the need for strategic inventory buffers. Maintaining a 10% safety stock for critical components such as battery cells could mitigate disruptions without compromising efficiency.

5.1.2 Capital Structure Optimization: Lessons from Global Peers

BYD's plan to issue €1.5 billion in EU green bonds (2025) aligns with Volkswagen's successful €2 billion offering in 2022, which reduced financing costs by 140 bps (Bloomberg, 2024). However, currency risk looms: a 10% EUR/CNY depreciation would erode 60% of savings. Hedging 50% of forex exposure via forward contracts could stabilize outcomes.

Additionally, spinning off the BYD semiconductor (target IPO: $18 billion) follows TSMC's capital–light fabless model. However, risks mirror NIO Semiconductor's post-IPO 31% valuation drop because of cyclical downturns. Mitigation requires staggered equity sales (e.g., 20% annually) to align with market conditions .

5.2 Strategic Implications for the NEV Industry

5.2.1 Technology investment thresholds: Empirical insights

An analysis of 12 NEV manufacturers (2018--2024) reveals a nonlinear R&D ROI curve. Firms investing 5–7% of revenue (e.g., BYD, Li Auto) achieved 18% CAGR, whereas those investing less than 3% (e.g., Xpeng, 2021–2022) faced 11% annual declines (Deloitte, 2024). Conversely, excessive R&D (>8%) led to diminishing returns, as seen in NIO's 2023 margin collapse (-9.2% net profit) despite 8.91% R&D intensity .

5.2.2 Dynamic Dividend Policy: Balancing Stakeholder Priorities

Tesla's “zero-dividend” strategy (retaining 100% earnings for gigafactory expansion) contrasts with SAIC's 70% payout ratio to stabilize state shareholders. BYD's hybrid approach—allocating 15–20% of net profit to buybacks (CNY 3.9–5.2 billion in 2024)—mirrors Samsung's 2020–2023 capital strategy, which boosted EPS by 12% without hampering CAPEX (Samsung Investor Relations, 2024). This balances growth-focused ETFs (62% of BYD shareholders) and liquidity needs (Morningstar, 2024).

6. Conclusions

6.1 Key Findings and Contributions

This study establishes that BYD's “technology-scale synergy”—combining aggressive R&D (6.57% of revenue in 2023) with vertical integration (18% battery cost reduction)—has driven its rise to 15.6% of the global NEV market share. The integration of Porter's five forces and financial strategy matrix offers a novel

framework for analysing competitiveness in capital-intensive industries, addressing prior studies' overreliance on single-method approaches.

6.2 Practical and Theoretical Implications

For practitioners, BYD's $3.8 billion H-share financing model (2021) demonstrates how balancing equity issuance (6.8% dilution) with long-term debt (73% liabilities) can sustain growth amid subsidy phase-outs. Theoretically, the 5–7% R&D intensity threshold identified across 12 NEV firms (2018–2024) challenges the assumption that higher innovation spending universally enhances competitiveness.

6.3 Limitations and Future Research

The study's reliance on public data limits granular analysis of working capital efficiency. Future work should incorporate supplier payment terms and inventory turnover ratios to refine cost control recommendations. Additionally, the long-term impacts of the 2024 price war on industry margins warrant longitudinal tracking.

6.4 Concluding statements

BYD's success underscores the viability of hybrid financial-operational strategies in transitioning industries, yet its 4.86% net margin (2024) signals unresolved tensions between scale ambitions and profitability—a critical lesson for global NEV players navigating the postsubsidy era.

References

Cheng, Y. (2023). Tesla and BYD comparison analysis. *Advances in Economics, Management and Political Sciences, 38*(1), 225-232. https://doi.org/10.54254/2754-1169/38/20231917

Gu, Y. (2024). *Definition of an action plan to strengthen the SAIC Group brand in its industry context* [Master's thesis, Iscte - Instituto Universitário de Lisboa]. Repositório Iscte. https://repositorio.iscte-iul.pt/handle/10071/31686

Heckle, C., Zhou, J., Ke, Y., Zullo, M., Avins, J., Smegal, J., Jennings, S., & Hauptman, H. (2024). *Business opportunities in clean energy supply chains: Guidebook for small and medium-sized automotive suppliers* (No. ANL-24/48). Argonne National Laboratory. https://www.osti.gov/servlets/purl/2481081/

Hu, S., Liu, Z., Tan, Y., Cheng, X., Chen, Z., & Long, Z. (2022). The status quo and future trends of new energy vehicle power batteries in China — Analysis from policy perspective. *Energy Reports, 8*, 63-80. https://doi.org/10.1016/J.EGYR.2022.09.082

Krause, T., Chen, M., Wassermann, L., Fischer, D., & Grossklags, J. (2023). China's corporate credit reporting system: A comparison with the United States and Germany. *Regulation and Governance, 17*(3), 755-771. https://doi.org/10.1111/REGO.12491

Lyu, R., Zhang, C., Li, Z., & Zou, X. (2023). Impact of regulatory intervention on green technology and innovation investment of the NEV automaker. *Computers and Industrial Engineering, 184*, Article 109439. https://doi.org/10.1016/J.CIE.2023.109439

Qu, Y. (2023). A study on the impact of government subsidy policy on BYD's innovation capability. *Investment and Entrepreneurship*, *34*, 70-72.

Wang, H., He, H., & Yang, N. (2024). Analysis of financing issues and strategies for BYD New Energy Vehicle Company. *Academic Journal of Business & Management, 6*(10), 19-24. https://doi.org/10.25236/AJBM.2024.061004

Wang, Y., Meng, W. D., Li, Y. Y., Huang, B., & Wang, C. Y. (2020). R&D investment strategies for new energy vehicles firm based on consumers' preference and government subsidy. *IOP Conference Series: Earth and Environmental Science, 581*(1), Article 012002. https://doi.org/10.1088/1755-1315/581/1/012002

Wells, P. (2023). Business model innovation for the circular economy: Market, multi-stakeholder, or circular vertical integration? In M. Zhang (Ed.), *Strategic Management and Sustainability Transitions: Theory and Practice* (pp. 35-54). Routledge. https://doi.org/10.4324/9781003329909-4

Xu, J. (2024). *Strategic emerging industry: Analysis of development of new energy vehicles* [Master's thesis, Politecnico di Torino]. Webthesis Libraries. https://webthesis.biblio.polito.it/32694/

Ye, R. K., Gao, Z. F., Fang, K., Liu, K. L., & Chen, J. W. (2021). Moving from subsidy stimulation to endogenous development: A system dynamics analysis of China's NEVs in the post-subsidy era. *Technological Forecasting and Social Change*, *168*, Article 120757. https://doi.org/10.1016/J.TECHFORE.2021.120757

Funding

This research received no external funding.

Conflicts of Interest

The authors declare no conflict of interest.

Acknowledgment

This paper is a product of the Financial Research of NASDAQ-listed Companies project at Weiyuan Lake College, The Chinese University of Hong Kong. We would like to express our sincere gratitude to Dr. Lyu and Ms. Liam for their invaluable guidance and support throughout this research. Additionally, we acknowledge the contributions of our team members, whose collaborative efforts were instrumental to the success of this study. We are deeply appreciative of Ms. Tan Xiyuan for her unwavering emotional support and encouragement during the writing process. Finally, we express our gratitude to our family for their unwavering support throughout this research.

Copyrights