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Leadership and Disruptive Innovation in China's New Energy Vehicle Industry: The Case of BYD

Xiwen Yuan

Zhongshan Sanxin School, Zhongshan, China
yxiwen26@163.com

Abstract. This study uses a qualitative case study of BYD to explain how it achieved growth in China's new energy vehicle industry under competition with incumbent automakers, with particular attention to how industry transformation exposed the limitations of incumbent strategies. However, fuel vehicle incumbents usually adapted EV technologies to existing architectures rather than redesigning their core systems due to financial pressures and path dependence. Thus, the study explores BYD's development through market entry, capability building, and technology evolution. The findings show that BYD entered through affordable vehicles and public transport electrification, using these markets to develop EV capabilities before expanding into mainstream passenger vehicles. Based on these capabilities, the firm invested in batteries, semiconductors, and hybrid systems, enabling technological advances and supporting its transition to electrification. This further shows that latecomer firms can overcome incumbent advantages via staged entry, capability accumulation, and strategic commitment to disruptive technologies.

Keywords: Disruptive Innovation, Creative Destruction, Strategic Leadership, Jobs-to-be-Done, BYD

1. Introduction

In industrial markets, dominant incumbents often face the "capitalist's dilemma" as they prioritize immediate financial outcomes and adapt disruptive technologies to existing structures, while prior strategic management research has predominantly framed strategic leadership as a leader-specific attribute rather than an embedded organizational capability. This study examines how BYD, a late entrant in China's new energy vehicle industry, achieved disruptive innovation through low-end and new-market disruption, jobs-to-be-done-based business model design, and strategic leadership that supported high-risk transformation. Using a qualitative case study, it traces BYD's evolution from entering the automobile market in 2003 to developing affordable models, deploying electric public transport solutions, scaling DM-i hybrid vehicles, and investing heavily in technological capabilities such as batteries and semiconductors. The study integrates strategic leadership, creative destruction, and consumer needs into a unified framework, arguing that organizational capabilities rather than individual vision enable firms to overcome transitional risks. Moreover, it also suggests that future competition will increasingly depend on software-defined vehicles and digital ecosystems, requiring firms to pursue more open and adaptive innovation strategies.

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2. Literature review and theoretical framework

2.1. Evolution of industrial and innovation theories

Industrial evolution is not a linear process but is driven by cycles of creative destruction, in which new technologies and business models replace existing structures while creating new sources of growth [1]. However, incumbents often fail due to established financial metrics and value networks. This tension is captured by Christensen's "capitalist's dilemma," which explains how mature firms prioritize sustaining innovations with predictable returns while overlooking disruptive opportunities with uncertain but transformative potential [2, 3]. Based on this view, disruptive innovation theory distinguishes between sustaining innovation, which boosts performance for mainstream customers, and disruptive innovation, which creates new markets or targets overlooked customer segments [3].

2.2. Strategic capability and disruption framework

The cultivation of strategic capabilities relies on firms' ability to recognize emerging opportunities, make strategic departures from established paths, and manage uncertainty during transformation. For latecomer firms facing disadvantages in capital, brand, and supply chains, strategic leadership enables competition beyond established innovation paths. In particular, low-end and new-market disruption creates entry opportunities for latecomers in overlooked segments while avoiding direct competition with incumbents. These mechanisms form a causal framework in which incumbents develop strategic blind spots under the capitalist's dilemma, while latecomers use organizational capabilities to capture emerging opportunities. By aligning solutions with customer jobs-to-be-done and accumulating capabilities in peripheral markets, latecomers can eventually enter mainstream segments and drive creative destruction [1, 4]. In contrast, incumbents tend to integrate disruptive technologies into existing architectures, leading to the "cramming error" instead of transformation [4, 5].

3. China's new energy vehicle industry: incumbent dynamics and structural blind spots

3.1. Industry background of China's new energy vehicle market

The shift of China's new energy vehicle market shapes BYD's disruptive trajectory and the strategic responses of traditional multinational joint-venture automakers [6]. In the period of rapid expansion of China's passenger vehicle market, foreign joint-venture brands gained a dominant position in mainstream segments through technological advantages, global supply networks, and strong brand recognition. Under these conditions, incumbents maintained a sustaining innovation path, focusing on internal combustion engine optimization, fuel efficiency improvements, and incremental vehicle upgrades. Their resource allocation remained aligned with established technological trajectories and existing customer preferences, which effectively supported competition in the fuel vehicle market based on brand reputation, performance, and product refinement [7, 8]. However, as electrification accelerated, these strengths also became sources of inertia, thus limiting their ability to respond to emerging EV architectures and new market opportunities.

3.2. Incumbent strategic blind spots and the "cramming error"

Incumbents' strong commitment to sustaining innovation created strategic blind spots toward the emerging battery-based technological paradigm. As electrification accelerated, their dependence on

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legacy architectures led to the "cramming error" by adapting disruptive technologies within existing vehicle structures [4]. In the automotive industry, this was reflected in fuel-to-electric conversion models, where battery systems were integrated into traditional fuel vehicle platforms to avoid major asset losses. These methods often resulted in compromises in space efficiency, weight distribution, range, and cost performance. From a strategic perspective, such responses represented incremental adaptation rather than architectural transformation [9]. Besides, concerns over returns and business cannibalization led incumbents to prioritize existing internal combustion assets, leaving low-end and emerging segments open for Chinese new energy vehicle firms [10].

4. Dual entry mechanisms of disruptive innovation: the BYD case

4.1. Low-end entry as strategic positioning mechanism

Given its limited resources and weak market position, BYD focused on price-sensitive segments that incumbents had largely overlooked [11]. Instead of competing on the performance dimensions valued by mainstream customers, the firm used low-end entry to establish a market foothold where cost efficiency and accessibility were more important than brand reputation or advanced features. This approach enabled BYD to avoid direct competition within the dominant value network while accumulating manufacturing and supply chain capabilities.

The F3 model launched in 2005 reflected this positioning. Priced below 70,000 RMB, the model relied on cost control and localized production rather than competing with incumbents in design and performance. Although BYD's products lagged behind incumbents in refinement, their affordability appealed to mass-market consumers overlooked by joint-venture brands. Through this segment, it accumulated production experience, supplier coordination capabilities, and vehicle development knowledge, creating the foundation for later expansion into mainstream passenger vehicle markets [12].

4.2. New-market disruption in public transport as system-level entry

Beyond low-end vehicle entry, BYD pursued new-market disruption by targeting public transport electrification, where conventional private vehicle demand for EVs had not yet formed [13]. At that stage, limitations in battery performance and charging infrastructure restricted consumer adoption. BYD therefore shifted the entry point from individual consumers to public-sector users, including governments and transport operators, where centralized operation and policy support created more suitable conditions for electrification.

The deployment of electric buses and taxis in Shenzhen enabled BYD to test and refine EV technologies under intensive operating conditions [13]. Unlike private vehicle markets that required broad consumer acceptance, public transport fleets offered predictable routes, centralized charging, and continuous usage data. As a result, this new-market entry strategy reduced adoption barriers, enabled technology validation, and accelerated the accumulation of battery and electronic control capabilities, supporting BYD's later expansion into passenger vehicle markets [14].

5. Capability accumulation and value system reconfiguration

5.1. Strategic leadership and full-chain resource allocation

In the new energy vehicle transition, BYD's strategic leadership was reflected in its choice of organizational structure. While global automakers generally adopted an asset-light model based on

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extensive outsourcing and Tier 1 supplier networks, BYD pursued full-chain vertical integration by internalizing key components of the EV value chain. This organizational choice differed from the prevailing efficiency-oriented logic of the traditional automotive industry. In the fuel vehicle era, outsourcing allowed automakers to improve capital efficiency and reduce operational complexity. However, the emerging EV sector lacked mature supply standards, and critical technologies such as batteries, electric drivetrains, and power semiconductors remained closely linked to product architecture and technological development. Under these conditions, BYD chose to retain greater internal control over core components rather than relying primarily on external suppliers. Therefore, vertical integration represented an organizational response to technological uncertainty rather than a simple expansion of manufacturing scope. By restructuring control over key value-chain activities, BYD established an internal coordination model suited to the early-stage EV industry.

5.2. Long-term investment and jobs-to-be-done alignment

The vertical integration strategy required sustained resource commitment to develop capabilities that were unlikely to generate immediate financial returns. Instead of prioritizing short-term market expansion, BYD continued to commit substantial resources to battery technology, electric systems, and semiconductor capabilities, while tolerating uncertainty arising from prolonged technological development cycles. This approach reflected a departure from conventional financial evaluation logic, where investments with delayed returns and high uncertainty are often disadvantaged [15, 16]. These accumulated capabilities later supported BYD's transition into mainstream passenger vehicle markets by addressing consumer jobs-to-be-done. In this evolving market context, as EV adoption expanded, family consumers prioritized safety, reliability, energy costs, and convenience for daily and long-distance mobility rather than electrification alone. BYD responded with the DM-i hybrid architecture, which combined electric-drive efficiency with reduced range concerns. By integrating battery, motor, and power-control technologies, the system improved energy efficiency and lowered the cost barriers traditionally associated with hybrid vehicles, hence enabling broader adoption in mainstream segments [17].

5.3. Exit from fuel vehicles and strategic focus

Under conditions of technological transition, firms demonstrate strategic leadership by abandoning established but declining technological paths despite the continued value of existing assets. In 2022, BYD discontinued complete fuel vehicle production and shifted exclusively toward new energy vehicles, including pure electric and plug-in hybrid models. This decision represented more than a change in product portfolio; it served as an organizational mechanism to break technological and cognitive path dependence. For incumbent automakers, existing fuel vehicle businesses often create internal resistance to electrification because established assets, engineering expertise, and revenue structures continue to support incremental improvement of legacy technologies. By eliminating fuel vehicle production, BYD reduced the possibility of maintaining competing strategic directions within the organization and created a clear commitment to electrified mobility. Therefore, BYD's exit from fuel vehicles was not simply a product adjustment but a deliberate break from its existing technological path. By ending internal combustion engine production, BYD reshaped managerial priorities, technological development, and organizational routines around electric mobility, breaking continuity with legacy architectures [1, 3].

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6. Structural tensions and global strategic expansion

6.1. Internal structural challenges and strategic tensions

BYD's vertically integrated model, which supported rapid capability accumulation during the early stage of EV development, may limit flexibility as competition shifts toward software and digital ecosystems. However, this strength may become a constraint because the same internal coordination mechanisms that strengthen hardware control may reduce flexibility as innovation increasingly relies on external collaboration and rapid software iteration. Vertical integration requires continuous coordination across internal units and high utilization of fixed assets, making the model effective for manufacturing-intensive competition. However, software-driven innovation follows a different logic based on modular architectures, platform ecosystems, and continuous updates. As autonomous driving, AI systems, and digital services become key competitive dimensions, excessive reliance on internal development may slow adaptation and limit access to external technological resources. In addition, BYD's long-standing positioning in cost-sensitive segments may create brand constraints when moving toward premium markets. While cost efficiency remains a competitive advantage, consumer associations with affordability may hinder BYD's efforts to establish differentiation in higher-margin segments [18].

6.2. Global opportunities and future strategic balance

At the global level, BYD's expansion reflects the transfer of domestically developed organizational capabilities into markets with different technological and infrastructure conditions. Unlike mature economies where EV competition increasingly centers on premium products and advanced software ecosystems, many emerging markets still face limited EV adoption due to affordability constraints, insufficient charging networks, and infrastructure gaps [19]. In these contexts, BYD's battery and hybrid system capabilities allow it to enter markets where conventional EV adoption is constrained by infrastructure and affordability barriers. Rather than simply exporting existing products, the firm extends its new-market disruption logic by adapting electrified mobility solutions to regions where demand has not yet been fully developed. This represents a capability spillover process in which domestic experience is transformed into an international market-entry mechanism. However, global expansion challenges BYD's internally driven model, as international markets require adaptation to different regulations, consumer preferences, and technology ecosystems [20].

7. Conclusion

This study examines BYD's transformation from a latecomer automaker into a major new energy vehicle producer through the lens of strategic leadership as an organizational capability. The case demonstrates that BYD combined low-end and new-market disruption to avoid direct competition with incumbents, while using vertical integration and long-term capability development to support its transition into mainstream markets. These findings suggest that latecomer firms can overcome incumbent advantages not through immediate technological superiority, but through staged market entry, organizational commitment, and the accumulation of capabilities in emerging value networks. Nevertheless, this study is limited by its single-case design and retrospective analysis, which may emphasize strategic consistency while overlooking external influences such as policy changes, competitive dynamics, and uncertainty in software-defined vehicles. Future research could compare

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multiple firms across different markets and further examine how vertically integrated manufacturers adapt to increasingly software- and ecosystem-driven competition.

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