

CHINA'S EV GIANT IN INDIA: A STUDY ON BYD'S MARKET INFLUENCE AND GROWTH POTENTIAL

AUTHOR – VIJAY KRISHNA, STUDENT AT SCHOOL OF EXCELLENCE IN LAW, THE TAMIL NADU DR AMBEDKAR LAW UNIVERSITY

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ABSTRACT:

India's transition to electric mobility has gained critical urgency in the face of worsening environmental conditions, rising fuel imports, and the global shift toward sustainable transportation solutions. Among the various multinational players influencing this dynamic landscape, BYD (Build Your Dreams), a leading Chinese electric vehicle manufacturer, has emerged as a significant catalyst in shaping India's electric vehicle (EV) trajectory. Founded in 1995, BYD is globally recognized for its vertical integration model that combines electric vehicle production with proprietary battery technology, especially its innovative Blade Battery. In the Indian context, BYD's presence has not only introduced new benchmarks in quality and innovation but also triggered meaningful shifts in consumer perception, competitive dynamics, and policy discourse.

This research paper examines the multi-dimensional impact of BYD in India's evolving EV system. The central objective of the study is to evaluate how BYD's strategies, products, technological innovations, and market behavior have influenced the broader Indian EV ecosystem. India's EV sector has traditionally been characterized by low-cost, entry-level electric models dominated by domestic manufacturers such as Tata Motors and Mahindra & Mahindra. The introduction of BYD's premium models, such as the BYD e6 MPV and the Atto 3 SUV, has diversified the segment and expanded consumer expectations. Notably, BYD's vehicles have introduced Indian consumers to global standards in battery safety, vehicle range, and intelligent driving features. The e6, with its significant success among fleet operators, has already captured substantial market share within the commercial EV segment, while the Atto 3 has found traction among urban upper-middle-class buyers.

The introduction of Blade Battery technology has also advanced the discourse on battery safety and recycling in India. BYD's commitment to zero-emission vehicles aligns well with India's target of achieving net-zero emissions by 2070, and its efforts contribute significantly to the short-term goals of electrifying 30% of all vehicles by 2030.

KEYWORDS: India's EV ecosystem, Technological innovations, BYD's marketing strategies, market behavior, low-cost entry level electric vehicle brands, BYB e3MPV, Atto, Atto e3.

INTRODUCTION:

The 21st century has witnessed an urgent and unprecedented shift in the global approach towards mobility, fueled by the dire need to address climate change, energy insecurity, and urban pollution. At the heart of this shift lies the global movement toward electric vehicles (EVs), which offer a cleaner, more sustainable alternative to traditional internal combustion engine (ICE) vehicles. Among the countries actively pursuing a transformation in mobility is India, the world's most populous country and one of the fastest-growing economies. With its burgeoning urban population, growing vehicular



density, and rising environmental concerns, India finds itself at a pivotal moment in the evolution of its transportation sector.

Electric vehicles in India are not just a trend—they are a necessity. The country imports over 80% of its crude oil requirements, making it highly vulnerable to international price fluctuations. Simultaneously, air pollution levels in several Indian cities have reached hazardous levels, necessitating urgent interventions. Against this backdrop, the Government of India has set ambitious targets, including the electrification of 30% of all vehicles by 2030, driven by a combination of policy initiatives, subsidies, and infrastructure investments.

Programs such as the Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME) scheme, Production Linked Incentives (PLI) for EV component manufacturing and state-level EV policies have created a fertile ground for both domestic and international companies to invest in India's electric mobility transition.

Among the major global players who have ventured into this rapidly evolving landscape is BYD (Build Your Dreams), a Chinese conglomerate and one of the largest electric vehicle manufacturers in the world. Founded in 1995 and headquartered in Shenzhen, China, BYD has evolved from a battery manufacturing company into a global leader in electric transportation, producing electric cars, buses, trucks, and rail transit systems. The company is widely recognized for its proprietary battery technology, particularly the Blade Battery, which has set new benchmarks in safety and durability. Globally, BYD has expanded its operations across more than 50 countries and regions, aiming to promote zero-emission mobility solutions worldwide. BYD's entry into the Indian market marks a significant milestone in the country's EV journey. Unlike other foreign automakers that have focused predominantly on mass-market entry-level EVs, BYD strategically positioned itself in the premium and commercial segments. It began its operations in India in 2007 by supplying electronic components and industrial batteries.

However, its serious push into the electric passenger vehicle segment started in 2021, with the launch of the BYD e6, a multi-purpose electric vehicle designed for fleet and taxi operators. This was followed by the Atto 3, a premium electric SUV targeting individual buyers, and the Seal sedan, aimed at customers seeking high-performance electric sedans. Each of these launches was carefully timed and tailored to meet the specific needs of Indian consumers, and together they form BYD's initial blueprint for market expansion.

The strategic intent behind BYD's entry into India is multifold. First, India represents one of the world's largest automotive markets, with enormous potential for electrification. Second, India offers an opportunity for BYD to diversify its market footprint beyond regions like China, Europe, and Latin America, especially in the face of growing geopolitical tensions and trade restrictions. Third, BYD's presence in India allows it to position itself as a technological and environmental pioneer in a market that is increasingly being shaped by climate-sensitive policies and consumer choices.

Yet, despite the immense opportunities, BYD's journey in India is not without challenges. Regulatory roadblocks, particularly those affecting Chinese investments, have slowed down the company's efforts to establish local manufacturing facilities. In 2023, the Indian government rejected BYD's \$1 billion proposal to set up a joint venture plant in Hyderabad, citing national security concerns. This decision underscores the complex geopolitical environment that foreign investors, especially Chinese companies, must navigate when entering India.

Nevertheless, BYD has demonstrated resilience and adaptability in the Indian market. It has opted for a gradual expansion strategy that emphasizes brand building, dealer network development, and customer education. As of 2024, BYD has expanded its dealership network to more than 25 cities and



plans to cover up to 90% of the Indian EV market by the end of 2025. Its vehicles are known for their extended range, superior build quality, and advanced safety features, attributes that are beginning to redefine consumer expectations in the premium EV segment. Moreover, BYD's experience with electric buses, which it supplies to public transportation agencies in multiple Indian cities, further strengthens its brand recognition and reinforces its commitment to sustainable urban mobility.

This research paper aims to explore the multidimensional impact of BYD's entry into India's electric vehicle ecosystem. It will assess how BYD's technological innovations, product offerings, business strategies, and market behavior are influencing India's EV sector. The study will also evaluate the policy and regulatory frameworks that shape BYD's operations, the competitive response from domestic and global players, and the socio-economic implications of BYD's presence in India. By situating BYD within the broader context of India's energy transition and environmental sustainability goals, this paper seeks to provide a nuanced understanding of the opportunities and challenges facing foreign EV manufacturers in one of the world's most promising electric mobility markets.

Through qualitative and quantitative analysis, this research will investigate key questions: How has BYD positioned itself in the Indian EV market? What distinguishes BYD's approach from that of other players? What impact has BYD made on consumer awareness, infrastructure development, and policy evolution? What are the barriers that BYD must overcome to scale its operations in India? And finally, what does the future hold for BYD and similar foreign entities seeking to influence India's clean mobility paradigm.

SCOPE OF THE RESEARCH:

The rapid transformation of India's transportation sector, driven by the urgency of reducing carbon emissions and achieving sustainable development, has opened new avenues for electric vehicle (EV) adoption. Within this evolving ecosystem, BYD (Build Your Dreams) has emerged as a prominent international player, introducing advanced technologies and premium electric vehicle models that are redefining market standards.

This research examines the multi-dimensional impact of BYD's presence in India and seeks to understand its broader implications on the country's electric vehicle system. To effectively analyze this impact, it is essential to clearly delineate the boundaries and limitations of the study. The scope of this research is defined in terms of subject matter, geographical focus, temporal boundaries, stakeholder analysis, and thematic dimensions.

The primary subject focus of this research is the influence of BYD as a corporate entity within the Indian EV ecosystem. Rather than assessing the entire global EV market or comparing multiple foreign players in India, this study centers exclusively on BYD's operations, products, and strategic decisions. In terms of geographical scope, the study is limited to the Indian market.

Although BYD is a multinational enterprise with global operations in China, Europe, Latin America, and Southeast Asia, this research confines itself to its Indian footprint. It examines the cities and regions where BYD has launched its electric vehicles, established dealerships, and deployed its public transport solutions. Particular attention is given to urban centers such as Delhi, Mumbai, Bengaluru, Hyderabad, and Chennai, where the adoption of EVs is higher due to better infrastructure, income levels, and supportive policies.

RESEARCH METHODOLOGY:

This research is grounded in a primary data-centric methodology, with all findings derived from firsthand information collected through two main tools: an online survey conducted via Google Forms and a series of direct, semi-structured interviews. The survey was carefully designed to capture



quantitative and qualitative data from a diverse pool of respondents, including existing and potential BYD electric vehicle users, automobile industry professionals, and environmentally conscious consumers.

Questions focused on areas such as brand perception, vehicle performance, affordability, environmental impact, and the overall user experience of BYD EVs. The Google Form was distributed through social media, email, and relevant online forums to ensure wide reach and diverse representation. In parallel, direct interviews were conducted with selected participants, including consumers and industry stakeholders, allowing for in-depth exploration of individual opinions, preferences, and insights that may not emerge through survey data alone.

These interviews provided valuable contextual understanding and narrative richness, complementing the structured data obtained from the survey. This combined use of digital and interpersonal tools ensured both breadth and depth in data collection, thereby enhancing the reliability and relevance of the research outcomes. The exclusive reliance on primary sources ensures that the study reflects current, ground-level perspectives on BYD's role and impact in the electric vehicle market.

These websites provided a broader context for understanding consumer feedback and market trends, supplementing the primary data and ensuring a comprehensive approach to the research. This mixed-methods approach, combining primary data with secondary online reviews, allowed for a well-rounded analysis of BYD's impact in the electric vehicle market.

REVIEW OF LITERATURE:

Wang Shishi (2022):

He directed a SWOT examination to survey the scene. Her discoveries highlighted that these undertakings have a strong material establishment and advantage from a deep-rooted modern chain, lining up with winning global strategies. In spite of this benefit, she recognized regions for development, outstandingly in innovation, ability securing, and rivalry from conventional enterprises, which posture difficulties to the area's development.

Niu Junwang (2022):

In his investigation, then again, fixated on the improvement status of China's new energy organizations inside the environmentally friendly power energy structure. He stressed the basic job of energy protection and discharge decrease as key drivers for the business, featuring their positive cultural effects. Moreover, Niu Junwang focused on the urgent significance of dominating new energy innovations as an extraordinary measure for these endeavors, illustrating methodologies to reinforce mechanical capacities.

Bin Xu & Boqiang (2018):

They dug into the present status of China's new energy area. Utilizing a mix of cross-sectional and time series information, they investigated the business' elements and bridled a non-parametric added substance relapse model to unwind the multifaceted connection between the new energy area and its main impetuses. Their examination gives significant experiences into the perplexing elements impacting the development direction of new energy endeavors in China.

Shang.X.F & Choi.M.C. (2020):

One of the reasons for the rapid development of BYD Company was its unique human resources. By analyzing the unique human resources strategy in BYD company culture, the leadership of BYD company realized that employees played an important role in the development.



DATA ANALYSIS AND INTERPRETATION:





The responses gathered from the Google Form survey offer valuable insights into public perception regarding **BYD (Build Your Dreams)**, a rising electric vehicle brand in India. Among the 34 participants, most were **young adults**, with a strong representation from urban areas and a higher number of female respondents. Notably, **all participants had heard of BYD**, with social media emerging as the most common source of information, followed by friends and family, TV, and dealership showrooms. When asked about their familiarity with BYD's vehicles, the majority rated their **knowledge as moderate**, with the BYD Atto 3 being the most recognized model, along with a few mentions of the BYD e6.



INTERPRETATION:

The pie chart illustrates the **level of public familiarity** with various BYD electric vehicle (EV) models. A significant portion of respondents, **32.4%, reported not being familiar** with any of the models listed, highlighting a notable gap in brand or product awareness. Among those who recognized specific models, the **Atto 3 emerged as the most familiar**, with 29.4% of respondents identifying it. This suggests that the Atto 3 has achieved a relatively strong market presence, possibly due to more aggressive marketing, better availability, or favorable reviews.

Three other models - the Dolphin, Seal, and one additional model - each received equal recognition at 14.7%, indicating **a moderate level of awareness** but room for growth in visibility and outreach. The **e6 model received the least recognition**, with only 8.8% of respondents familiar with it, which could reflect lower promotion or less consumer exposure.

Overall, the data suggests that while BYD has made some inroads with select models like the Atto 3, a substantial percentage of the population **remains unaware of the brand's offerings.**



DO YOU BELIEVE BYD'S ENTRY HAS POSITIVELY IMPACTED INDIA'S EV INDUSTRTY?



INTERPRETATION:

The pie chart presents the distribution of respondents' opinions on a specific statement, categorized by levels of agreement. A significant portion of participants (47.1%) remained neutral, indicating either a lack of strong opinion or insufficient information to take a stance. Close behind, 41.2% of respondents agreed with the statement, reflecting a substantial level of support or acceptance. Together, the neutral and agree categories make up the vast majority of responses, suggesting a generally positive or indifferent perception among the audience.

On the other hand, only 5.9% of respondents strongly agreed, which, while showing some level of firm conviction, is relatively low compared to those who simply agreed. Similarly, 5.9% of participants disagreed, reflecting minimal opposition to the statement. Notably, there were no entries for "strongly disagree," indicating an absence of strong negative sentiment.

Overall, the chart reveals a predominantly neutral to positive response trend. While a majority did not express strong opinions, the combined 47.1% neutral and 41.2% agree responses suggest that most individuals either support the idea moderately or are open to persuasion. This information could be useful for refining messaging or gauging readiness for action based on public sentiment.









INTERPRETATION:

The data strongly suggests that the **dynamics of the market** itself, specifically the rise in **"Increased competition,"** are considered paramount. This could imply that a greater number of manufacturers entering the EV space, leading to more diverse offerings and potentially lower prices, is seen as the primary catalyst for wider adoption.

The near equal importance placed on "High-quality EVs at affordable prices" underscores a fundamental aspect of consumer behavior. For EVs to truly become mainstream, they not only need to be technologically advanced and appealing but also accessible to a broader range of buyers. Similarly, the significant portion attributed to **"Innovation in battery technology"** highlights the crucial role of ongoing research and development in areas like **range**, **charging speed**, **and battery lifespan** in overcoming consumer concerns and enhancing the practicality of EVs.





DO YOU THINK BYD'S PRESENCE WILL ENCOURAGE MORE GLOBAL EV MANUFACTURERS TO ENTER INDIA?



INTERPRETATION:

This pie chart presents the distribution of responses to a question with three possible answers: **"Yes," "Maybe,"** and **"No."** The largest segment, accounting for **44.1%** of the responses, indicates a positive affirmation ("Yes"). Following closely is the "Maybe" category, representing **41.2%** of the responses. The smallest portion, at **14.7%**, corresponds to a negative response ("No").

The data reveals a slightly higher proportion of affirmative answers compared to those expressing uncertainty. This suggests a general inclination towards the subject of the question among the respondents. However, the significant percentage of **"Maybe" responses indicates a considerable level of ambivalence** or a lack of a definitive stance. This could stem from various factors, such as insufficient information, a need for further consideration, or genuine uncertainty about the matter at hand.

WOULD YOU CONSIDER PURCHASING A BYD ELECTRICAL VEHICLE?

INTERPRETATION:

This pie chart illustrates the distribution of responses to a question offering three options: "Maybe," "Yes," and "No." Notably, the largest segment, constituting **exactly 50.0% of the responses, falls into the "Maybe" category.** This indicates that half of the respondents expressed uncertainty or a conditional stance regarding the question posed.

The remaining half of the responses is split between "Yes" and "No." The "Yes" category accounts for **26.5% of the responses, indicating a positive affirmation** from slightly over a quarter of the participants. Conversely, **the "No" category represents 23.5% of the responses,** signifying a negative answer or disagreement from just under a quarter of the respondents.

The prominent "Maybe" segment suggests a significant level of indecision or a lack of strong conviction among the respondents. This could arise from various factors, such as ambiguity in the question, a need for more information before forming an opinion, or a genuine state of uncertainty. The relatively close percentages for "Yes" and "No" indicate a **fairly balanced division of opinion** among those who did take a definitive stance.







INTERPRETATION:

It illustrates the relative importance **of various factors influencing consumer decisions regarding Electric Vehicles (EVs).** The most significant factor, by a considerable margin, is "Battery range," accounting for a substantial 47.1% of the responses. This strongly suggests that the distance an EV can travel on a single charge is the primary concern and a major deciding factor for potential buyers.

Following distantly are **"Charging infrastructure"** and "Price," both holding an equal share of 20.6%. This indicates that **the availability and convenience of charging options**, as well as the overall cost of the vehicle, are also significant considerations for consumers, carrying roughly the same weight in their decision-making process.

"Brand reputation" accounts for 8.8% of the responses, suggesting that while the manufacturer's image and credibility play a role, it is less influential than battery range, charging, and price. The least significant factor, according to this data, is **"Government incentives,"** with a mere 2.9%. This implies that while government support might encourage EV adoption, it is not perceived as a major driving force compared to the more practical aspects of range, charging, and affordability.









It visually represents the gender distribution among a group of respondents. The data indicates a **clear majority of female participants,** accounting for 55.9% of the total. In contrast, the **male respondents constitute the remaining 44.1% of the group.** The difference of 11.8 percentage points highlights a noticeable skew towards female representation within this particular sample. This suggests that the survey or data collection process engaged a larger proportion of individuals identifying as female compared to those identifying as male.

It is important to note that this distribution is specific to the group surveyed and **may not be representative of a broader population.** The context of the survey or data collection method could provide further insights into the reasons behind this gender imbalance. For instance, the topic of the survey might have a **greater appeal or relevance to one gender over the other**, or the sampling method employed might have inadvertently led to this particular demographic breakdown.

SUGGESTIONS:

As for the problems that BYD may encounter in its development, its core problem is technological innovation. Therefore, some relevant countermeasures and suggestions will be put forward from the two main bodies of enterprises and the government, so as to improve BYD's competitiveness in the market and have more advantages and better development.

1. Strengthen Product Innovation to Meet the Individual Needs of Consumers:

With the continuous change of policy, the new energy automobile industry giant Tesla entered China, the original fuel car BMW, Mercedes-Benz, and other well-known brands cater to the new direction of energy transformation, new energy is the future trend of development, and BYD can raise the price appropriately and improve the positioning of the car, thus breaking the original positioning, no longer limited to low-end products. Based on the basic model, launching good performance, more endurance limited or customized versions, to the development of high-end cars, and luxury cars.

2. Increase Research and Development Efforts to Improve Product Quality:

To upgrade item quality, BYD has reliably put areas of strength in innovative work. The organization perceives that nonstop mechanical progression is foremost, especially with regard to battery innovation which actually holds undiscovered possibilities. Contrasted with customary fuel vehicles,



new energy vehicles face double difficulties of restricted speed and inadequate power for broadened driving reaches.

3. Improve Infrastructure and Expand Markets:

First of all, the government could invest funds to support technology and industrial innovation, and strengthen the construction of peacetime infrastructure, such as charging infrastructure, to provide basic security. Second, actively encourage enterprises and public institutions to purchase new energy vehicles, promote its promotion, so that their market scope is larger; Third, the government can encourage international cooperation and strengthen the exchange and cooperation of international new energy enterprises.

CONCLUSION:

The new energy industry is the major trend of the future, with the support of policies, continuous technological innovation, and environmental requirements, which will usher in a broader prospect for development. Therefore, it is necessary to study the topic, which can aid other new energy enterprises in establishing the correct development strategy. According to the case analysis method, this paper takes BYD as a specific example to study the development strategy of new energy enterprises and finds that there are bottlenecks in the development process of technological innovation and insufficient competitiveness, but with the joint efforts of both the conquest and the enterprise, the problems can be effectively solved.

At the same time, enterprises should also strengthen technological innovation and cooperation with other enterprises, so as to form a good cooperative relationship and jointly promote the development of a new energy industry. However, the major limitations of the present study are that the research method is not scientific and rigorous enough, the data collection and analysis are not comprehensive enough, and only the case analysis method is used to analyze the overall state of its development, which is relatively extensive, and the research content is not detailed enough.

And it lacks some empirical model analysis. The future research direction would like to further study the transformation of new energy enterprises, new energy enterprises in the state of high quality and rapid development, not only limited to their own development, better digital intelligent development, and further promote the optimization of the structure of new energy enterprises.

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