

Research on the Market Positioning and Operational Strategy of New Energy Vehicle Brands Going Global — Based on the Support and Optimization of Cross-Border Financial Services

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Abstract. Affected by both carbon reduction policies and energy transition, the development of the global NEV (New Energy Vehicle) industry was booming. Being the biggest NEV manufacturer, Chinese companies are seeking to expand and enter into the foreign market. Specifically, this paper investigates how the cross-border financial services support the going abroad of Chinese NEV brands from the aspects of payment efficiency, capital liquidity and risk management. Examples include the use of blockchain-based cross-border payment technologies, which have been proven to vastly lower transaction costs and settlement times, thus significantly raising NEV enterprises' operational efficiency. Tailored solutions of finance for supply chain, cross-border finance and foreign exchange management further enable operational agility in foreign markets. Specifically, through case studies of BYD and NIO, this paper examines how fintech and cross-border payment systems optimize payment collection, improve capital efficiency, and reduce financial risk, and how in response fintech accelerates internationalization through cross-border operations. This study fits into the body of knowledge of global financial strategies for NEV brands, whilst underpinning the critical role of fintech in streamlining cross-border capital flows. The policy implications of this study encourage fintech integration in NEV sector and suggest an investor who can invest in companies with strong fintech ability will help improve both the profitability and the global competitiveness of NEV enterprises.

1 Introduction

The NEV industry is advancing rapidly and has become an important engine in the global green energy transition. With the global carbon reduction target and energy transition policy booming, I believe that the NEV industry is ushering in a phase of unprecedented development opportunities. Global sales of NEVs exceeded 14 million units in 2023, with a year-on-year increase of about 40% [1] per the International Energy Agency (IEA). In 2024,

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global sales are estimated to reach 17.5 million units, with a year-on-year growth of 27% [2]. In addition, global NEV sales are expected to amount to over 21 million units by 2025, and the electrification penetration rate will be as high as 23.2% [2].

China, as the world's biggest NEV production and consumption market, has a solid foundation for internationalization, based on technological innovation, supply chain advantages and all-around policy support. China's NEV sales are expected to grow to 12.85 million units and 40.9% market penetration in 2024 [2]. Sales are projected to reach 16.1 million units by 2025 [2], buoyed by tax incentives, trade-in policies, and government subsidies for vehicle purchases. Such policy measures have greatly improved the global competitiveness of Chinese NEV brands.

In this context, cross-border financial services have gradually become an important support tool for the internationalization of NEV brands. With the overseas market for new energy vehicles (NEV) growing rapidly, the demand for cross-border payment services in this market is also expanding, and relevant financial services market will reach scale of USD 120 billion by 2024 [3]. However, traditional cross-border payment and financing methods—such as high transaction costs, long settlement cycles, and lack of transparency—are no longer capable of satisfying the space for rapid expansion of enterprises. Similar to how traditional SWIFT payments take around 3–5 business days to settle (and have all the associated fees) [4] In contrast, blockchain payment technology can cut transaction costs by 30%–40% [4] and shorten settlement time to only seconds. Accordingly, fintech has emerged as one of the key enablers for optimizing NEV firms' cross-border capital flows.

With efficient and transparent payment solutions and intelligent risk management tools, blockchain and other financial technologies are changing the paradigm of cross-border financial services and significantly improving capital liquidity and operational efficiency. As an illustration, Ripple's blockchain payment network achieves cross-border settlement in seconds instead of the 3-5 days that traditional payment networks take, and it also reduces transaction costs by around 40% compared to SWIFT payments [4]. Similarly, AntChain's intelligent payment platform — Trusple, has been widely used in the NEV industry, providing real-time settlements and cost optimization solutions [5]. In the Southeast Asian market BYD, with the help of AntChain, has introduced blockchain payment systems, shortening local dealers' settlement time by over 50% [5].

Furthermore, NEVs are high-value products, and their global operations require lighting financial solutions, such as supply chain financial, cross board financing and foreign exchange management. For instance, BYD entered into a partnership with the China Development Bank, facilitating the procurement of USD 3 billion in cross-border financing to support the establishment of production facilities and sales networks in Southeast Asia [6]. Likewise, when NIO rolled out its high-end vehicles to the European market, it partnered with local banks to set up dedicated auto finance companies [7]. Such financing mechanisms relieved the financial pressure of NEV enterprises and promoted their faster internationalization.

Through cooperation with financial institutions, Chinese NEV manufacturers like BYD, NIO, and XPeng have rapidly expanded into markets in Europe and Southeast Asia and become role models for the entire industry. As of 2024, BYD captured a 21.7% share of the global NEV market, ahead of Tesla's 18.2%, making it the best-selling NEV brand worldwide [8]. Other domestic brands such as XPeng and Li Auto have also recorded stable growth in market shares, reaching 3.5% and 5.4%, respectively [9]. So, while Tesla is maintaining its dominance in the North American market, its overall share of the world market is undergrowing a fundamental challenge from China. This is a stark contrast to the drop in Tesla's market share in China, now at 9.3%, which speaks to the competitive strength of domestic players [10].

From the strategic market perspective, this article intends to take into account the situation of cross-border financial services and analyze the value of cross-border financial services in the internationalization of Chinese NEV brand. This paper uses case studies and conduct literature reviews to analyze how fintech tools can help improve them financially through optimized payment methods, capital efficiency and operational risk reduction to facilitate the achievement of that global brand strategy.

2 Research Design

2.1 Data Sources and Description

2.1.1 Industry Reports & Academic Literature

The study analyzes the global development trends of the NEV sector and the innovations applied in cross-border financial services based on the data provided by organizations such as International Energy Agency (IEA), McKinsey & company, Ernst & Young et al.

2.1.2 Corporate Case Studies

Construing with in-depth case analyses of major Chinese NEV firms-BYD, NIO and XPeng, the paper explores their cross-border payment, financing and supply chain financing practices. BYD partnered with AntChain using blockchain technology in optimizing settlement efficiency of markets in Southeast Asia; NIO adopted intelligent risk management tools to establish consumer confidence in Europe.

2.1.3 Fintech Platform Data

This comprises the case data originating from AntChain and Ripple, particularly in how their cross-border payment and blockchain solutions are specifically beneficial for the international operations of NEV enterprises. Using Ripple's cross-border payment network, real-time settlement was made for BYD in Europe with the help of AntChain smart contract technology to reduce the transaction costs.

Based on the reviews of cross-border financial services that facilitates the internationalization of NEV brands, several key indicators were proposed to dive deeper to explore how cross-border financial services supports on the internationalization of NEV brands.

Market Positioning Accuracy: How well do the target companies position their products to meet local customer needs in the respective target markets (particularly important when considering differentiation strategies in high-end (e.g. European) vs mid-range (e.g. Southeast Asian) markets).

Payment and Settlement Efficiency: A comparison of traditional vs. blockchain-based payment systems with focus on time and cost efficiency, evaluating the fintech effect on the velocity of capital turnover.

Supply Chain and Risk Management Efficiency: It assesses the ways in which international supply chains function resting on financial services from various aspects, especially with regard to the expansion of risk and optimization of working capital.

Effectiveness of Financing Support: This evaluates the potential of cross-border financial services in providing diversified enterprises with financing solutions such as coverage and accessibility of supply chain financing and trade loans.

2.2 Methodology

The study employs the following research methods:

Literature Review: A summary of the theoretical framework is based on the analysis of industry reports and academic research.

Case Study Method: An in-depth exploration of BYD, NIO, and XPeng's international activities, focusing on how these companies utilize cross-border financial instruments to facilitate international market penetration. For instance, BYD worked with local banks in Europe to develop tailored supply chain finance initiatives that help grow its dealership network [10].

Comparative Data Analysis: A comparison of transaction costs between a traditional payment model and a blockchain based payment model. An assessment of the time efficiency changes between both models. For instance, Ripple's blockchain payment service decreased the settlement time from 3-5 days to a few minutes and saves around 40% in transaction costs as compared to SWIFT transfers [11, 12].

Market Research and Model Construction: An overall operational model of NEV brands going globally was constructed, and relevant literature and case data were combined to analyze how like-brands' cross-border financial services serve a market position, ease of funding, and risk management.

3 Cross-Border Market Environment Analysis

The global NEV landscape is highly heterogeneous across regions, with differing sets of policy measures, consumer preferences, and competitive dynamics. Chinese NEV brands must therefore implement various strategies depending on the specific characteristics of each target market to leverage the competitive advantage to the greatest extent possible.

3.1 European Market: Dual Drivers of Premium Demand and Environmental Awareness

Europe is one of the world's most developed markets for new energy vehicles, with a high penetration rate and premium quality and environmental performance valued by consumers. While NEV sales in Europe are expected to dip slightly to 2.81 million units in 2024, a 4.7% year-on-year decrease (New Energy SMM, 2024), Chinese NEV brands have aggressively extended their reach in the region. BYD has launched multiple models specifically for European countries, with good results in market share [11]. NIO also moved into Germany and Norway with new luxury intelligent vehicles like the ET7, as well as focusing on establishing battery swapping stations as a way to add value for European consumers and expand their existing local presence.

3.2 United States Market

U.S. market entry comes with intense competition and newly complex challenges that include high barriers to entry, and barriers to consumer trust between countries, as well as the high cost of cross-border ins consistency. Despite the increasing growth of the U.S. NEV market, expected to reach 1.62 million units in 2024—a year-on-year growth of 11% [12]—Tesla's share of the market has declined to 49%, as local car making firms have ramped up their competition, with companies like GM, Ford and Honda [13]. But the high tariffs and low consumer trust that Chinese brands face in the U.S. leave them trying for more signaling in the market.

3.3 Southeast Asia and Emerging Markets

Outside Europe and North America, NEV expansion is increasingly turning towards Southeast Asia, the Middle East and Latin America. NEV sales in Mexico increased five times in 2024, primarily due to BYD's enter [12]. In Turkey, NEV sales increased almost 50%, compared to 17% growth for the UK market [12]. In contrast, France and Germany suffered a downward trend in NEV sales [12], suggesting different progress in market acceptance in each area. In Norway—the leader in NEV penetration throughout the world—however, NEVs make up up to 90% of all new car sales [12].

Emerging regions, like the Middle East, Africa and Latin America, however, have seen limited NEV adoption so far, owing to the relatively nascent stage of their infrastructure and economic maturity. But these markets are huge growth opportunities. For instance, GAC Aion introduced mid- to low-end models catering to local consumer demand in Latin America, as well as cooperating with local dealerships on sales. Notably, this localized strategy made it easier to penetrate the market while establishing its brand slowly among local consumers [5].

4 Advantages and Challenges of Cross-Border Financial Services

Cross-border financial services play a pivotal role in the globalization of NEV brands, offering comprehensive support ranging from payment optimization to financing solutions.

4.1 Enhancing Payment and Settlement Efficiency

Traditional cross-border payment methods—like SWIFT—generally take 3 to 5 business days to settle, with large fees involved. Such misplacement seriously limits NEV enterprises' global supply chain operations. Payment and settlement processes become streamlined thanks to breakthrough blockchain technologies. Ripple's blockchain-based payment network, for example, allows for instant settlements and reduces costs to 30%–40% of what they are when settling through traditional systems [6]. Trusple platform solutions provided by AntChain enable small and medium-sized enterprises businesses to provide real-time settlement functions and transaction transparency in complex cross-border business scenarios, thereby enhancing operational efficiency [7].

In Southeast Asia, BYD utilized blockchain payment technologies that substantially decreased dealer settlement delays and reduced financial transaction costs. This not only enhanced the efficiency of supply chain but also improved BYD's competitiveness in local markets [8].

4.2 Expanding Financing Channels

The mutual market development and after-sales network of NEV enterprises is often costly, and manufacturing facilities are easily transferred. This is where supply chain finance and cross-border trade financing have sprung up as great tools for catering to these needs. BYD working with China Development Bank and AntChain to obtain flexible financing to strengthen production and sales networks in Southeast Asia [9]. Such funds alleviated financial pressure and allowed for rapid market deployment.

4.3 Optimizing Risk Management

Cross-border operations are naturally vulnerable to the volatility of exchange rates, credit risks, and compliance issues. Through automated and transparent mechanisms, smart contracts and blockchain technologies reduce these risks. Smart contracts of AntChain can automatically execute pre-defined transaction conditions which can reduce the human errors and operational risk [10]. This is also possible through partnership with local bank, which will lead to easy access to specific market risk management instruments like forward exchange contracts and credit insurance, which help hedge against market volatility.

5 Case Study: BYD

BYD's successful entry into European and Southeast Asian markets is a case in point to demonstrate the strategic value of cross-border financial services for Chinese NEV brands, and as a benchmark enterprise for Chinese NEV brand internationalization.

5.1 European Market: High-End Positioning and Brand Recognition

In Europe, BYD's operational strategy heavily relies on financial service support. By partnering with local banks and financial institutions, BYD provides diverse installment payment options to consumers while also offering supply chain financing to dealers. This comprehensive financial support has enabled BYD to penetrate competitive markets such as Germany and Norway swiftly, gradually building a premium brand image in the process[11].

5.2 Southeast Asian Market: Flexible Payment and Localized Cooperation

BYD's dual strategy in Southeast Asia emphasized cost-performance alongside localized payment systems. Working with AntChain, BYD improved its cross-border settlement processes leveraging payment technologies based on the blockchain. Besides, BYD cooperated with local banks to provide auto loan plans with low-interest for consumers based on their needs [12]. The company also collaborated with local logistics providers to minimize transportation costs and enhance delivery efficiency, further strengthening its position in the market.

6 Challenges

Despite the considerable advantages cross-border financial services offer NEV brands in their globalization efforts, several challenges persist:

6.1 Technological Barriers and Adoption Rates

Blockchain technology has shown its mettle in cross-border payments, but adoption in some markets is still relatively slow. Some countries have burdensome regulatory regimes around digital currencies and blockchain technologies, making it expensive for businesses to comply. Therefore, companies are encouraged to work with local governments and financial institutions to facilitate the adoption of technology and streamline regulatory procedures[13].

6.2 Brand Trust and Cultural Perception

Consumers in Europe and North America tend to be sceptical of Chinese brands, a barrier to successful market expansion. To address this, organizations will need to invest in storytelling, driving a user experience and localized operational team for building trust and cultural resonance over a period of time [14].

6.3 Policy Volatility and Market Risk

NEV exports face stringent environmental regulations and technical criteria, including the EU's battery recycling directive and carbon border adjustment mechanisms. These regulations may also raise production and supply chain management costs. In order to relieve capital pressure [15], companies need to develop flexible response strategies and utilize financial tools, such as supply chain finance.

The worldwide transition to carbon neutrality and energy sources is accelerating, and the demand for bleeding-edge energy vehicles (NEVs) has gained international momentum, offering unprecedented opportunities for growth within the NEV sector. While the strength of Chinese NEV firms' global competitiveness is increasing, they still face problems related to inefficient payment systems, difficulties regarding cross-border financing, and foreign exchange risks that remain prominent at the same time. Here, cross-border money services work as a critical support structure that enhances the liquidity of funds, minimizes the operational expense, and increases the aggressive edge in overseas markets.

7 Conclusion

However, with the globalization of Chinese new energy vehicle (NEV) brands, cross-border financial services play an important role—analyses of financial technologies (blockchain payment, supply chain finance, cross-border financing, etc.) showed their positive impact on improving payment settlement efficiency, optimizing capital allocation, and mitigating financial risks. The study shows that using blockchain payment solutions can greatly shorten transaction time and cut transaction cost, supply chain financing enables stable expansion for overseas investment, and intelligent risk control tools can assist in managing foreign exchange fluctuation risks as well as credit default risks.

Practical examples of companies like BYD and NIO verify the real-life application of these financial instruments in firing up international operations and hastening global market penetration.

Based on these findings, the paper offers the following policy recommendations:

For Policymakers: Governments need to strengthen cross-border financial infrastructure and promote fintech innovation and international cooperation, and improve the global capital environment for NEV enterprises. Bespoke cross-border financing support policies to enable the NEV sector can be established aimed at reducing the entry barriers for international growth.

For NEV Enterprises: Enterprises need to actively adopt fintech to optimize cross-border settlement (e.g., using blockchain technology to shorten transaction cycles and reduce costs). Engaging with global financial institutions and the judicious use of tools such as supply chain finance instruments and forward foreign exchange contracts will, in turn, further boost the ability to be a master of capital in overseas markets.

For Investors: Investments in NEV companies that possess robust cross-border financial solutions should be prioritized as these firms generally boast of greater operational efficiencies, lower financial risk, and solid long-term competitive advantages. Likewise,

cutting-edge fintech applications like blockchain payments and smart risk control have paved the way for potential investments in the NEV space.

To sum up, effective strategies of cross-border financial services have become a key driving force for the internationalization of Chinese new energy vehicle brands. With the intensifying global competition in the NEV market, enterprises need to use fintech tools to improve globalized operations, and policymakers and investors also need to keep an eye on these trends and jointly promote the sustainable development of the NEV industry.

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