

# ***Strategic Management Challenges and Solutions for the International Expansion of Electric Vehicles Charging Enterprises in the Context of Deglobalization***

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**Abstract:** In the context of deglobalization, Chinese electric vehicles (EV) charging enterprises face considerable challenges to international expansion. On the one hand, they must navigate trade barriers, divergent technical standards, and geopolitical risks; on the other hand, they confront a range of internal issues, including cross-cultural integration, technology adaptation, compliance management, and talent shortages. This paper proposes strategic pathways include the construction of a "glocalized" operational model, the development of a dynamic mechanism for technical standard adaptation, the enhancement of compliance, risk control, and ESG governance systems, and the building of a resilient supply chain. Collectively, these strategies aim to systematically strengthen firms' international competitiveness. The findings provide both theoretical insights and practical implications for enterprises pursuing sustainable development within a complex global landscape.

## **1. Introduction**

The global resurgence of deglobalization, characterised by the ostensibly rising trade protectionism and intensifying geopolitical frictions, appears to suggest a substantially significant reconfiguration of global industrial and value chains, particularly within this broader analytical framework. In this evolving context, and given the complexity of these theoretical relationships, China's EV charging enterprises appear to be simultaneously encountering what may represent seemingly unprecedented strategic opportunities and substantial managerial challenges. The objective of this paper is to systematically analyze the external constraints and internal dilemmas faced by these firms in the context of deglobalization, while it also seeks to provide a framework for understanding how strategic pathways can enhance transnational management capabilities and promote sustainable development.

## **2. External Challenges Facing EV Charging Enterprises under Deglobalization**

### **2.1 Escalating Trade Barriers and Policy Uncertainty**

Within the broader analytical framework, deglobalisation appears to manifest as a particularly salient feature, signifying a tendency towards the regression of global trade rules from multilateralism

towards regionalism and protectionism. This phenomenon is indicative of formidable obstacles that hinder the overseas expansion of EV charging firms. This suggests that, while traditional tariff barriers presumably remain problematic, what seems especially noteworthy in this analytical context is that a more insidious challenge appears to arise from a predominantly complex array of non-tariff barriers. What the evidence appears to reveal is that under the ostensible pretexts of "national security" or "industrial protection," certain countries have imposed stringent market-entry restrictions, levied punitive tariffs, and initiated anti-dumping and anti-subsidy investigations against Chinese-made charging products and core components, which appears to result in inflated operational costs and risks [1].

Nevertheless, within the evolving conceptual parameters outlined above, there appears to be an intensifying policy volatility surrounding the charging sector. This domain is of particular importance in the context of national industrial competition. Target markets may, on occasion, abruptly alter EV and charging infrastructure subsidies, revise government procurement standards, or enforce new local content requirements that potentially mandate partial domestic production or assembly. The findings suggest that the "moving-target" regulatory landscape appears to provide evidence that may support a lessening of firms' ability to execute long-term strategic planning, seems to lend support to what may represent an exposure to sunk-cost risks that are often difficult to recover from.

## **2.2 Divergent Technical Standards and Certification Regimes**

Technical standards are the "passport" for products to pass into the international market. However, the evident division existing in charging interface, communication protocol and safety standard has formed another formidable technological barrier for the "going out" of EV charging enterprises. Up to now, no global unified standard has been born [2]. Besides China's widely used GB/T system, there are Combined Charging System (CCS) widely used in Europe and North America, Japan's CHAdeMO and Tesla's North American Charging Standard (NACS), which are totally different from each other in communication structure, charging safety requirement, data exchange and grid interaction.

That is, products developed for a specific market can hardly be connected in other regions. Therefore, enterprises need to redesign, test and get certified for their unique standards in every region. For instance, products entering the European Union need to obtain CE certification and meet rigorous requirements of the Electromagnetic Compatibility Directive; while products entering North America need to obtain UL certification, whose test requirements are different from each other. Each has its own criteria, procedure and period. The differences in technological standards not only increase R&D cost and time to market, but also bring higher management difficulty for global chains.

More importantly, the differences in technological standards also determine the strategic technological choices of enterprises. Misjudgment in choosing mainstream standards or failure to track and follow the revision of standard versions will cause enterprises to be excluded from main markets, rendering all previous investments wasted. To summarise, the contention regarding standards can be regarded as a contest for market dominance. Technological standards represent an unavoidable and decisive battlefield in the internationalization of EV charging enterprises.

## **2.3 Geopolitical Risks and the Pressures of Supply Chain Reconfiguration**

The infusion of geopolitical considerations has transformed international expansion into a high-stakes strategic contest that extends beyond mere commercial competition. Great-power rivalry, particularly in high-tech sectors, has led to the politicization of EV charging supply chains. Some enterprises, due to their country of origin, now face intensified scrutiny in investment reviews, restricted access to strategic projects, or even stigmatization as "data security risks."

Simultaneously, the restructuring of global supply chains in the context of geopolitical pressures has accelerated trends such as "onshoring" and "friend-shoring." These developments compel firms to reconsider their production geography and mitigate overdependence on any single region—especially for critical components like chips or power devices, where abrupt trade disruptions could trigger catastrophic supply shortages [3]. While the establishment of diversified, regionally distributed supply networks or local manufacturing facilities may mitigate risks, such strategies entail heavy capital commitments, prolonged construction cycles, and increased managerial complexity, testing both strategic resilience and resource orchestration capabilities.

### **3. Internal Managerial Dilemmas in the Internationalization of EV Charging Enterprises**

#### **3.1 Cross-Cultural Integration and Localization Challenges**

The concept of internationalisation must be understood to extend far beyond the export of products; rather, it requires deep integration into the cultural and institutional fabric of host societies. Cross-cultural management, therefore, is a primary internal challenge. Conflicts frequently arise between headquarters and local subsidiaries regarding managerial philosophy, decision-making processes, and communication norms [4]. The highly execution-driven and agile management style prevalent among Chinese firms may clash with Western norms emphasizing procedural rigor, labor rights, and collective bargaining—often resulting in organizational inefficiency and friction.

From a commercial standpoint, insufficient localization leads to strategic "misfit." Misunderstandings of local business practices, consumer behavior, or regulatory nuances—coupled with inadequate adaptation of interfaces, payment systems, or customer support, have the potential to erode user trust. For instance, European consumers exhibit acute sensitivity to data privacy and post-sale service guarantees; failure to align with such expectations risks reputational damage and market exclusion.

#### **3.2 Technological Adaptation and Product Iteration Constraints**

It is evident from this comprehensive analytical framework that the multitude of global technical standards imposes a substantial amount of pressure on firms' internal R&D and product architectures. Entrenched "path dependencies," what seems to constitute patterns developed under the domestic GB/T framework, frequently tend to point toward substantial costly reengineering when transitioning to CCS or NACS systems. What seems especially noteworthy in this analytical context is that the modifications required appear to extend beyond what might be characterized as mere interface adjustments, moving toward deep-level alterations in communication protocols, power electronics topology, thermal management, and software systems [5]. It is also important to note that strict overseas certification processes can lengthen iteration cycles. Even minor design modifications can seemingly trigger months-long approval processes, which appear to hinder the rapid, iterative development models typically successful in the domestic market.

#### **3.3 Incomplete Compliance and Risk Governance Systems**

It appears that a considerable number of enterprises have experienced a rapid expansion of overseas operations, which has seemingly outpaced the development of robust compliance infrastructures. What this tends to indicate is that compliance risks appear to have evolved largely beyond conventional legal frameworks, encompassing what seems to constitute increasingly multidimensional and dynamic domains within this broader analytical framework. In the domain of data governance, regulations such as the EU's General Data Protection Regulation (GDPR) and

various U.S. state privacy laws tend to impose what appear to be rigorous stipulations concerning what seems to be the comprehensive collection, storage, and cross-border transfer of user, geolocation, and payment data. This pattern seems to suggest that enterprises without dedicated data governance structures, enterprises may ostensibly risk what appear to be severe legal repercussions.

The findings suggest that environmental, social, and governance (ESG) compliance exerts a significant influence on market access and corporate reputation. A particularly salient aspect of these findings is that requirements concerning aspects such as carbon footprints, labor rights, and battery recycling appear to have typically become binding. In this context, it is also noteworthy that anti-corruption, anti-bribery, and intellectual property regimes predominantly appear to remain stringent and complex, given the complexity of these theoretical relationships. It is evident that the presence of multidisciplinary compliance teams with extensive knowledge of the target-country laws, taxation, and environmental policies emerges as a theoretically significant element. The absence of such teams may result in unintended breaches of regulatory obligations, which could potentially lead to substantial penalties, business bans, or even criminal liability.

### **3.4 Lagging Development of Global Talent Pipelines**

Human capital appears to represent what seems to be the cornerstone of successful internationalization. In this context, within the broader analytical framework, it is also apparent that a dearth of globally competent talent-particularly mid- and senior-level managers with cross-cultural leadership and market-specific expertise-tends to point towards what appears to be a substantially critical bottleneck. The evidence suggests that reliance on expatriate staff from headquarters may indicate notable limitations: they are typically few in number and may lack what might be characterized as the cultural fluency and social networks apparently necessary for local operations. Conversely, what seems to emerge from these findings, considering the nuanced nature of these findings, is that local recruitment seems to generally indicate its own distinctive challenges-identifying individuals who appear to embody both corporate values and indigenous insight, and designing what might be characterized as globally competitive compensation and career systems to retain them.

In this context, it is also important to note that a more fundamental issue appears to reside in structural talent development. Beyond sales professionals, firms appear to tend to suggest an urgent requirement for engineers ostensibly versed in international technical standards, legal and tax experts predominantly proficient in compliance governance, supply chain managers largely capable of coordinating across jurisdictions, and marketers presumptively skilled in cross-cultural communication. This pattern suggests that establishing an interdisciplinary, globally oriented talent system may provide evidence that may support a demand for what appears to represent sustained, systematic investment in recruitment, training, and integration.

## **4. Strategic Pathways for the International Expansion of EV Charging Enterprises**

### **4.1 Building a Dual-Track "Global-Local" Operating Model**

In order to address the substantially complex challenges of cross-cultural integration and localized operation, within this broader analytical framework, EV charging enterprises presumably need to transcend the binary opposition between globalization and localization. This pattern suggests the implementation of a dual-track "global-local" operating paradigm. What appears to represent the essence of this model seems to generally indicate an achievement of what seems to constitute a dynamic equilibrium between global strategic coherence and local adaptive flexibility. In this global context, corporate headquarters tends to suggest what appears to be a concentration on articulating

ostensibly unified brand values, defining the core technological roadmap, and establishing globalized frameworks for finance and risk control, given the complexity of these theoretical relationships. The results of these efforts indicate that there is substantial evidence to support substantially robust brand consistency, operational discipline, and economies of scale in areas such as R&D and procurement. The analysis suggests that the local track has a significant degree of autonomy, which appears support the possibility of a grant to regional or national subsidiaries. This would empower locally led teams to oversee what appears to indicate product adaptation, marketing, channel development, customer engagement, and governmental relations, considering the nuanced nature of these findings.

Evidence suggests that a practical manifestation of this approach, what seemingly demonstrates a practical manifestation of this approach, in light of these methodological considerations, is the establishment of joint governance committees that include both headquarters and regional executives. This tends to point toward what appears to be an alignment of typically major decisions with global strategy while reflecting local market intelligence. What seems especially noteworthy in this analytical context, at the operational level, local teams largely possess the latitude to tailor software interfaces, payment systems, service packages, and even business models based on nuanced insights into user behavior and regulatory requirements, from this particular interpretive perspective. A key aspect of these customized approaches is the centralized strategic alignment with decentralized market responsiveness. This combination appears to enable firms to demonstrate an ability to operate on a global scale while maintaining a competitive edge at the local level. The findings suggest that the project has achieved apparent consistency of purpose and precision in execution, within these evolving conceptual parameters.

## **4.2 Establishing a Dynamic Mechanism for Technical Standard Adaptation**

In view of the fragmented and fast-evolving nature of global technical standards, enterprises ostensibly require a shift from passive adaptation toward what appears to be proactive governance. This indicates the establishment of a dynamic and systematic mechanism for what might be characterized as technical standard alignment. What appears to initiate this process seems to be the formation of dedicated units for standards intelligence and strategic research, predominantly tasked with typically monitoring the developments of the IEC, ISO, and national standardization bodies, while actively participating in, or even potentially leading, international standard-setting initiatives. Within this broader analytical framework, the evidence suggests that such engagement seems to generally indicate a shift in firms' roles from rule-takers to rule-shapers, which tends to emerge as theoretically important in this context.

At the technological level, these findings suggest that platform-based and modular product architectures are crucial. The data seems to suggest is that by standardizing and decoupling the design of key modules-such as power units, control systems, and communication interfaces, enables firms reconfigure products in a "Lego-like" fashion. In light of these methodological considerations, when entering markets governed by different interface standards (e.g., CCS, NACS, or GB/T), it seems that only the front-end module or communication protocol requires modification. This indicates a substantial reduction in adaptation costs and certification timelines. Further interpretive consideration is warranted here regarding the profound impact on accelerating time-to-market. What also appears significant in this context, from this particular interpretive perspective, is that firms appear to lend support to what may represent an investment in in-house pre-certification laboratories that predominantly replicate the major regulatory conditions of target markets. This allows for pre-testing and an acceleration of formal certification procedures. These findings suggest that this closed-loop mechanism-spanning intelligence monitoring, platform design, anticipatory R&D, and rapid certification endows enterprises with strategic flexibility and technological agility. This indicates a



transformation of standard heterogeneity from a previously perceived barrier to a sustainable competitive advantage, complicating traditional interpretations.

#### **4.3 Strengthening Compliance, Risk Control, and ESG Governance Systems**

To turn compliance and ESG management from a list of checkboxes into a source of competitive advantage is the key to successful internationalization with sustainability in view. An effective governance structure starts with an organizational design: the appointment of a CCO position or the establishment of an ESG Committee directly accountable to the board. Under such an architecture, clear and actionable global policies may be established in areas ranging from data security to anti-bribery to environmental protection to labor relations.

However, effective governance is about more than just establishing policies; it must be a dynamic, technologically-driven system. A firm should have professional legal counsel and consulting advisors, and it should use a digital compliance management platform to help it to monitor, audit, and instantly alert on compliance risks across all global operations. The principle is straightforward: if you conduct business, it is essential to have robust defences in place. As your business expands, it is imperative that your defences are commensurately increased.

In the context of ESG, it is imperative to emphasize the significance of tangible action over mere rhetoric. Enterprises should conduct full lifecycle carbon footprint analyses, prefer suppliers with environmental and social certifications, and confirm with certainty that no forced labor exists anywhere in their supply chains. It also helps to regularly publish ESG reports with full disclosure.

Strong ESG credentials help to protect against both regulatory red tape and reputational risks, while providing social legitimacy and governmental & community support in times of need. Good compliance is the sword which a firm can carry into battle to become the green knight in court-helping it to win favorable government policies, high-end project assignments, and conversions of compliance fame into competitive advantage.

#### **4.4 Building a Resilient Supply Chain and Diversified Global Production Layout**

in order to deal with the challenges posed by geopolitical turbulence and supply chain interruptions, EV charging companies should shift their focus from lean efficiency to the establishment security with elasticity, diversity and regional dispersion. From the perspective of a supply chain, EV charging companies should avoid relying on a single region or even a single supplier for production inputs. They should adopt a multi-sourcing approach and establish strategic safety inventories to ensure continuity in the event of a crisis. Digital supply chain management should be adopted to ensure full visibility-from material sourcing to final delivery-across the entire supply chain so that supply chains can be quickly readjusted in real time in the face of risk events.

From a production perspective, a hybrid "global + regional" manufacturing strategy is recommended. By balancing cost efficiency, proximity to markets and policy stability, EV charging companies may consider establishing production bases in regional markets such as Europe, Southeast Asia and the Americas through self-investment, joint ventures or contract manufacturing cooperation. The global manufacturing strategy "from China to the world" may be transformed into a "Made in Europe/America for the region" strategy. This move is aimed at reducing tariffs and logistics costs and to enhance local credibility and responsiveness to customer needs and expectations. In the final analysis, a supply chain that is efficient, secure and agile, with a global reach but local responsiveness, will be the foundation for stability and confidence in the face of deglobalisation.

## 5. Conclusion

In the wave of deglobalization and the emergence of complex trade, technology and geopolitics have been put up while the internal challenges in transnational management of culture, technology, compliance and talent have been unveiled. Faced with the complex and intricate constraints, EV charging companies must consider a strategic shift in their business approach, moving away from a widespread and opportunistic "going out" strategy. Instead, they should explore a strategically concentrated, "going out" capability-driven model.

By establishing a "global–local" operating system, a mechanism of standard adaptation, a compliance-ESG governance system and a resilient supply chain, the internationalization of EV charging companies can be enhanced from the system level. The key lies in exploring the strategic logic of transforming the external pressure into internal governance improvement and organizational learning. It is only through the process of "going up" that Chinese EV charging companies can explore sustainable competitive advantages and ensure steady, long-term development in the face of turbulent international environment.

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