

FROM SILK TO SUSTAINABILITY: BRI AND THE DEVELOPMENT PERFORMANCE OF CHINESE COMPANIES

Rashid Khan^{*1}, Samiullah², Esha Asad³

^{*1}Lecturer, Department of International Relations, National University of Modern Languages, Islamabad

²M.Phil. Political Science

³MS Government and Public Policy Scholar, Bahria University, Islamabad

¹rkhan@numl.edu.pk, ²samipol222@gmail.com

Corresponding Author: *

Rashid Khan

DOI: <https://doi.org/10.5281/zenodo.17646721>

Received	Accepted	Published
16 September 2025	21 October 2025	04 November 2025

ABSTRACT

The Belt and Road Initiative (BRI), launched by the People's Republic of China in 2013, represents a global infrastructure and investment strategy that has mobilised Chinese companies into more than one hundred countries. This article investigates how Chinese firms engaged in BRI projects perform from a development perspective—encompassing economic, governance/institutional, and sustainability dimensions—and how they are responding to the shift from heavy-infrastructure “Silk Road”-style engagement toward a “sustainability +” agenda. Using a secondary research methodology, the study draws on academic literature, policy reports, and institutional data to address two core research questions. The theoretical framework synthesises developmental state theory, global value-chain theory, and sustainable development/CSR theory to interpret firm behaviour across the BRI context. The findings reveal that while Chinese companies have achieved significant global expansion and contract flows under the BRI, the depth of local value-creation, governance accountability, and embedded sustainability remains uneven. The evolution toward green energy, high-tech manufacturing, and localization of production is evident. Yet challenges persist in terms of transparency, host-country institutional engagement, and full alignment with environmental, social, and governance (ESG) standards. The paper concludes with policy recommendations for corporate strategy, host-country regulation, and international development stakeholders and identifies avenues for further research.

Keywords:

INTRODUCTION

The metaphor of the ancient Silk Road evokes a corridor of trade, culture, and connectivity stretching across Eurasia, linking East and West in commerce and exchange. In the 21st century, the People's Republic of China has recast that historical vision into the Belt and Road Initiative (BRI), an ambitious programme of infrastructure building, investment, and connectivity aimed at enhancing trade links, industrial cooperation, and strategic influence across Asia, Africa, Europe, and beyond (McBride et al., 2023). Since its formal

articulation in 2013, the BRI has expanded to over 140 partner countries and has seen Chinese firms engage in telecoms, transport, energy, manufacturing, mining, and digital infrastructure projects (Green Finance & Development Center, 2025). Through this process, Chinese companies—both state-owned enterprises (SOEs) and increasingly private firms—have become central actors in global production networks, technology transfer, and overseas investment.

The significance of examining Chinese corporate performance under the BRI stems from multiple angles. First, at the macro-economic level, the overseas expansion of Chinese firms reflects China's industrial policy push, capacity utilisation, export of domestic firms, and contestation in global value chains (IISS, 2023). Second, from the viewpoint of host countries, Chinese firms' engagement offers potential development dividends—such as new infrastructure, jobs, technology transfer and trade connectivity—but also raises concerns about governance, local value capture, debt sustainability and environmental risk (Wen, 2025). Third, in the contemporary global policy environment, sustainability is increasingly central; how Chinese firms on the BRI path incorporate environmental, social and governance (ESG) practices, adopt green transition strategies and engage responsibly with host communities matters for both corporate legitimacy and development impact. Given this backdrop, the present article seeks to offer a comprehensive secondary-research review and analysis of how Chinese companies' participation in the BRI has shaped their development performance, with a particular emphasis on the transition from the heavy-infrastructure “Silk Road” model toward a sustainability-oriented engagement. The analysis is structured in the following way: after the problem statement, the research questions and objectives are presented; the theoretical framework is developed; then the literature review surveys existing scholarship on the BRI, Chinese firms abroad and sustainability issues; the methodology is described; results and discussion integrate findings across economic, governance and sustainability dimensions; and the article closes with conclusions, implications and recommended future research. By focusing on development performance—understood as more than contract volume and investment size but including local value creation, governance quality, and sustainable practices—this study contributes to a deeper understanding of Chinese corporate engagement in BRI countries.

Problem Statement

The rapid growth of the BRI has markedly increased the global footprint of Chinese

companies, yet critical questions remain regarding the quality of development outcomes that accompany this expansion. On one hand, Chinese firms have secured large infrastructure contracts, made substantial investments, and diversified into manufacturing, high-tech, and green energy in BRI countries. For instance, the 2024 BRI Investment Report documents that Chinese firms signed US \$70.7 billion in construction contracts and US \$51 billion in investments in BRI countries, with cumulative engagement since 2013 reaching US \$1.175 trillion. (Green Finance & Development Center, 2025). On the other hand, existing studies highlight that contract size and investment volume are not synonymous with positive development impacts. Issues such as limited local sourcing, weak technology transfer, inadequate stakeholder engagement, deficient transparency, and governance concerns persist (IISS, 2023; Wen, 2025).

Moreover, although the concept of a “Green BRI” has gained traction in recent years, the uptake of sustainability practices among Chinese overseas firms remains uneven. While Chinese firms have increased engagement in renewable energy and manufacturing linked to global value chains, they continue to participate in fossil-fuel, mining, and other resource-backed deals that may undermine environmental and social goals (Green Finance & Development Center, 2025). Thus, a gap exists in the literature regarding the holistic evaluation of Chinese firms' development performance under the BRI across economic, governance, and sustainability dimensions. The problem is particularly salient because host countries count on these investments to deliver outcomes aligned with the Sustainable Development Goals (SDGs), and misalignment could impede broader development ambitions. In summary, the problem is that while Chinese firms have scaled up their activities under the BRI at a remarkable rate, there is insufficient evidence that these engagements consistently translate into positive, sustainable development performance in host countries. This raises concerns about whether the BRI is truly serving as a conduit for Chinese corporate contributions to partner-country development, or whether it remains primarily an outward

extension of China's own industrial strategy with limited spill-overs.

Research Questions

1. How has participation in the Belt and Road Initiative influenced the development performance of Chinese companies?
2. To what extent have Chinese companies incorporated sustainability and green transition into their BRI operations?

Research Objectives

The objectives of this study are three-fold: first, to analyse the developmental performance of Chinese firms engaged in BRI projects, focusing on economic, governance/institutional and sustainability dimensions; second, to evaluate how sustainability and green transition initiatives have been incorporated by Chinese companies in their BRI operations; and third, to identify key challenges and opportunities in aligning Chinese corporate strategies under the BRI with global sustainable development goals (SDGs) and responsible investment frameworks.

Theoretical Framework

The study of Chinese companies' development performance under the Belt and Road Initiative (BRI) requires an interdisciplinary theoretical foundation. The interplay of state power, market dynamics, and sustainability transitions makes it essential to integrate economic, political, and environmental theories. Three frameworks are particularly relevant: **Developmental State Theory**, **Global Value Chain (GVC) Theory**, and **Sustainable Development and Corporate Social Responsibility (CSR) Theory**.

The **Developmental State Theory** provides the first analytical lens, tracing its roots to East Asian economic development models, particularly Japan and South Korea, where strong state intervention guided industrial upgrading and international competitiveness (Johnson, 1982; Evans, 1995). China's economic transformation mirrors this pattern, albeit with unique Chinese characteristics, where the state maintains decisive control over strategic sectors while promoting market-oriented reforms. Under the BRI, the Chinese government plays a pivotal role in directing

overseas expansion, providing financing through policy banks (such as the China Development Bank and Export-Import Bank of China), and mobilizing state-owned enterprises (SOEs) as instruments of national economic diplomacy (Naughton, 2018). Through this framework, BRI corporate engagement can be seen as an extension of the developmental state's logic, where firms pursue both commercial and geopolitical objectives, supported by institutional coordination and state-backed finance.

However, the Developmental State Theory alone cannot fully explain the diversity and decentralization of BRI actors. Many private and mixed-ownership firms also participate, seeking competitive advantage and integration into global markets. Therefore, **Global Value Chain (GVC) Theory** is adopted to analyze how Chinese firms embed themselves within international production networks (Gereffi, 2018). The GVC perspective focuses on how firms acquire technological capabilities, create linkages with suppliers and buyers, and generate local value within host countries. For BRI-related projects, Chinese companies often occupy the upstream segments of the value chain—engineering, procurement, and construction (EPC)—while host countries remain downstream, providing raw materials or market access (Liu & Dunford, 2016). This asymmetry influences development outcomes, as higher value-added activities such as design, technology transfer, and managerial upgrading remain concentrated in China.

Finally, **Sustainable Development and CSR Theory** provides the normative and evaluative framework for examining corporate performance beyond profit. Sustainability theory integrates environmental protection, social responsibility, and economic growth within the "triple bottom line" approach (Elkington, 1997). In the BRI context, the transition from the "Silk Road" model—focused on physical connectivity—to the "Green BRI" model reflects China's attempt to align overseas development with global sustainability norms such as the **UN Sustainable Development Goals (SDGs)** and the **Paris Agreement** (Zhou & Esteban, 2018). CSR theory helps to assess whether Chinese companies integrate environmental, social, and governance (ESG)

standards in their international operations, including local employment, environmental impact mitigation, and stakeholder engagement. By linking CSR with GVC and developmental state logics, this research positions sustainability as both a moral imperative and a competitive strategy for long-term legitimacy.

Together, these three frameworks—Developmental State, GVC, and CSR/Sustainability—allow a multi-layered analysis of how Chinese companies pursue development, navigate global integration, and respond to the demands of sustainable transformation under the Belt and Road Initiative.

6. Literature Review

6.1 From Silk Road to Belt and Road: Historical Evolution

The **Belt and Road Initiative (BRI)**, launched by President Xi Jinping in 2013, symbolizes China's reassertion of the ancient Silk Road's ethos—connectivity and exchange—but within a modern geopolitical and economic framework. The initiative comprises two major components: the **Silk Road Economic Belt** (land-based corridors across Eurasia) and the **21st Century Maritime Silk Road** (sea-based routes linking Asia, Africa, and Europe). According to the Chinese government's 2024 White Paper on the BRI, the initiative now involves 150 countries and 30 international organizations, covering more than 65% of the global population (State Council of China, 2024).

Scholars generally interpret the BRI as both an **economic development strategy** and a **foreign policy instrument**. It addresses domestic overcapacity, supports the globalization of Chinese firms, and promotes regional connectivity (Summers, 2016). However, opinions diverge on whether it primarily advances host-country development or serves China's geopolitical ambitions (Hillman, 2020). Recent studies argue that BRI projects vary widely in governance quality and sustainability impact, depending on the institutional capacity of both Chinese firms and host countries (Zhang & Chen, 2022).

6.2 Development Performance of Chinese Companies

The development performance of Chinese companies under BRI can be examined through three interconnected dimensions: **economic**, **governance**, and **social-environmental** outcomes.

Economically, Chinese enterprises have become dominant players in infrastructure development, energy, and manufacturing sectors across BRI countries. According to the **Green Finance & Development Center (2025)**, cumulative Chinese investment and construction under the BRI between 2013 and 2024 reached approximately **US\$1.175 trillion**. Major SOEs—such as China Railway Construction Corporation (CRCC), China Communications Construction Company (CCCC), and PowerChina—have gained vast overseas portfolios. However, while project volumes are impressive, evidence of long-term development benefits remains uneven (Dollar, 2019). Some studies highlight local job creation, industrial park development, and trade facilitation as positive spillovers (Liu & Dunford, 2016), while others critique limited local value addition, environmental degradation, and debt dependency (Hurley, Morris, & Portelance, 2018).

6.3 Governance and Institutional Dimensions

Governance has emerged as a critical determinant of BRI outcomes. Chinese firms often operate in countries with weak institutional frameworks, leading to challenges in contract enforcement, transparency, and anti-corruption compliance (Rolland, 2019). The lack of binding international standards for Chinese overseas investments sometimes results in opaque practices and limited stakeholder consultation (Hillman, 2020). Nevertheless, there is a gradual policy evolution. In 2021, the Chinese Ministry of Commerce and the Ministry of Ecology and Environment issued the "Guidelines for Green Development in Outbound Investment and Cooperation," promoting environmental risk assessment and corporate accountability abroad (MOFCOM & MEE, 2021). Scholars note that the institutionalization of such standards marks a transition from a purely economic BRI to a

more sustainable and regulated phase (Zhou & Esteban, 2018).

6.4 Sustainability and the “Green BRI” Transition

Sustainability has become central to the BRI narrative since 2019, when President Xi announced the “Green BRI” vision during the Second Belt and Road Forum. The **Green Finance & Development Center (2025)** reports that renewable energy accounted for **56% of China’s overseas energy investments** in 2024, up from 36% in 2020. Projects in solar, wind, and hydropower have expanded, with companies like China Three Gorges and LONGi Solar leading renewable energy ventures in Pakistan, Egypt, and Indonesia. Nonetheless, Chinese firms remain involved in some fossil-fuel projects, indicating a transitional rather than complete green shift (Wen, 2025).

Empirical literature reveals that corporate sustainability practices among Chinese BRI participants differ by ownership type. SOEs often have formal ESG reporting obligations and policy oversight, while private firms tend to innovate more rapidly but face weaker regulatory compliance (Zhang & Chen, 2022). Case studies from Southeast Asia and Africa show gradual improvement in environmental management, yet social dimensions—such as community participation and gender equity—remain underexplored (Tan-Mullins, Mohan, & Power, 2020).

6.5 Knowledge Gaps and Research Implications

While the academic discourse on BRI and Chinese outward investment is extensive, gaps persist in systematically linking **corporate-level performance** with **sustainable development outcomes**. Many studies focus on macro-level geopolitical or financial aspects but neglect micro-level firm behavior, innovation capacity, and CSR evolution. There is also limited cross-comparative research differentiating state-owned and private firms’ performance or measuring tangible social and environmental results in host countries (Dollar, 2019; Wen, 2025).

Therefore, this study contributes by synthesizing available secondary data to assess

development performance holistically—considering economic success, governance behavior, and sustainability integration. It extends theoretical understanding by merging the developmental state’s macro logic with micro-level CSR dynamics, illustrating how Chinese companies navigate the tension between state imperatives and global sustainability norms.

Research Methodology

This study employs a **qualitative secondary research design** to examine the development performance and sustainability practices of Chinese companies under the Belt and Road Initiative (BRI). The approach relies entirely on existing scholarly literature, institutional reports, policy documents, and data produced by reputable international organizations such as the World Bank, the Asian Infrastructure Investment Bank (AIIB), UNCTAD, and the Green Finance & Development Center (GFDC). Secondary research is particularly suitable for a subject such as the BRI, where reliable, large-scale data are available but direct field access to Chinese firms and overseas projects remains constrained by geographic and political limitations (Bryman, 2016).

7.1 Research Design and Rationale

A **qualitative interpretivist** approach underpins the research design, aiming to synthesize diverse academic and policy sources to develop an integrated understanding of corporate performance. Rather than measuring quantitative financial indicators alone, the analysis focuses on interpreting textual data, conceptual frameworks, and reported case findings to identify thematic patterns across three dimensions: **economic development outcomes, governance and institutional engagement, and sustainability performance** (Creswell & Poth, 2018).

The rationale for secondary qualitative analysis lies in its ability to triangulate perspectives across multiple sources—governmental white papers, peer-reviewed research, think-tank analyses, and corporate sustainability reports. This triangulation enhances credibility and validity while avoiding the duplication of empirical surveys.

7.2 Data Collection Sources

Data for this study were gathered from the following types of sources:

1. **Academic Literature:** Peer-reviewed journal articles and monographs published between 2015 and 2025, accessed through databases such as Scopus, JSTOR, and Google Scholar.
2. **Institutional Reports:** BRI investment reports from the Green Finance & Development Center (2023–2025), World Bank Infrastructure Outlook (2024), and UNCTAD's *World Investment Report* (2023).
3. **Governmental and Policy Documents:** The *State Council of China White Paper on BRI* (2024), *MOFCOM & MEE Guidelines for Green Development* (2021), and various AIIB environmental and social frameworks.
4. **Corporate Disclosures:** Selected case references to sustainability or annual reports from major Chinese companies such as PowerChina, CRCC, and LONGi Solar. These materials were collected through digital libraries and institutional repositories. Only sources meeting scholarly reliability and publication-standard criteria were included to ensure analytical rigor.

7.3 Analytical Framework

A **thematic analysis** approach guided data synthesis (Braun & Clarke, 2006). After collecting the documents, texts were coded into major themes:

1. Economic performance and competitiveness under BRI.
2. Governance, institutional coordination, and corporate transparency.
3. Sustainability integration and ESG outcomes.

Each category was examined through the theoretical lenses defined earlier—Developmental State Theory, Global Value Chain Theory, and Sustainable Development/CSR Theory—to interpret the role of the Chinese state, firm strategy, and sustainability transformation within the BRI's global network. The triangulation of these themes allowed the research to interpret how structural, institutional, and normative dynamics intersect in shaping firm performance.

7.4 Limitations

Despite its rigor, the research design has inherent limitations. Secondary data may reflect author biases, limited transparency of corporate disclosures, or incomplete host-country reporting. Chinese firms' sustainability data are often voluntary, varying in quality and coverage, especially for private enterprises (Zhang & Chen, 2022). Moreover, causal inferences about firm behavior cannot be drawn directly, as the study synthesizes existing analyses rather than conducting empirical surveys. Nevertheless, by combining multiple authoritative sources, the study mitigates these weaknesses through cross-verification and theoretical integration.

8. Results and Discussion

1. Economic Performance and Global Expansion of Chinese Firms

Since the Belt and Road Initiative (BRI) was launched in 2013, Chinese firms—especially state-owned enterprises (SOEs) such as China Communications Construction Company (CCCC), PowerChina, and China Railway Group—have achieved significant global expansion. According to the Green Finance & Development Center (2025), cumulative Chinese BRI engagement by the end of 2024 had reached approximately **US \$1.175 trillion**, including **US \$506 billion in construction contracts** and **US \$669 billion in investment projects**. This scale of engagement marks the BRI as one of the largest outward economic initiatives in modern history.

From an economic perspective, this expansion has allowed Chinese firms to utilize excess industrial capacity, gain access to overseas markets, and enhance their technological competitiveness (Wen, 2025). Through infrastructure and manufacturing contracts, Chinese firms have embedded themselves into regional production and logistics networks, effectively globalising Chinese industrial standards and engineering technologies. Moreover, BRI participation has created a platform for corporate internationalization beyond Asia, extending into Africa, Latin America, and parts of Europe.

However, despite these impressive figures, the **developmental quality** of Chinese corporate activities remains uneven. Scholars such as

Ramasamy and Yeung (2024) argue that much of the investment has been concentrated in sectors that provide limited spillover to local economies, such as construction and extractive industries. Local sourcing and job creation are often constrained by the importation of Chinese labour and materials. While this approach has accelerated project completion, it limits technology transfer and local capacity-building—two essential elements for sustainable development.

Another important economic dimension relates to the diversification of Chinese firms' portfolios within the BRI. Between 2018 and 2024, there was a visible transition from traditional infrastructure (ports, railways, roads) to **high-tech, digital, and energy sectors** (Green Finance & Development Center, 2025). Chinese technology giants such as Huawei and ZTE have become major players in "Digital Silk Road" projects, building data centers, 5G networks, and e-commerce platforms across Asia and Africa. This diversification signals an adaptive shift in China's outward investment model—from infrastructure-driven expansion toward innovation-driven globalization—which may have long-term implications for development performance.

2. Governance and Institutional Performance

Governance performance under the BRI has been an area of significant debate. Many observers note that the **institutional behavior of Chinese companies abroad** reflects both strengths and weaknesses of China's domestic governance model. On the one hand, SOEs bring strong organizational capacity, financing leverage, and project management expertise; on the other, they often operate under opaque governance frameworks, with limited disclosure and accountability (IISS, 2023).

Governance challenges are also linked to **host-country institutional environments**. In countries with weaker regulatory institutions or high corruption risk, Chinese firms have occasionally been criticized for adapting to local norms rather than promoting higher standards (Feng & Huang, 2022). For instance, BRI projects in parts of Africa and South Asia have faced allegations of cost overruns, lack of environmental assessment, or limited community consultation (Wen, 2025).

However, there has been **gradual improvement in corporate governance practices** among Chinese firms in recent years. The introduction of China's "Green Development Guidelines for Overseas Investment and Cooperation" (2021) and the "BRI Environmental Big Data Platform" (2023) indicates a policy-level push for transparency and ESG compliance. Empirical reviews (Zhang & Li, 2024) suggest that major SOEs have begun integrating environmental impact assessments and anti-corruption protocols into overseas project management cycles. Yet, smaller private firms still face structural barriers, including lack of institutional support, insufficient ESG knowledge, and fragmented regulatory enforcement.

The discussion on governance also intersects with **debt sustainability and project risk management**. Chinese financial institutions such as the China Development Bank (CDB) and Export-Import Bank of China have restructured loan portfolios to mitigate risks of default in several BRI countries (McBride et al., 2023). Debt renegotiations in countries such as Sri Lanka, Zambia, and Pakistan reveal an evolving learning process for both lenders and borrowers. While this indicates growing maturity in Chinese development finance, it also highlights the need for multilateral coordination and shared governance norms across the BRI network.

3. Sustainability and Environmental Transition

One of the most significant transformations in the BRI's trajectory has been the **shift from infrastructure intensity to sustainability integration**. Early BRI projects, especially between 2013 and 2017, were heavily dominated by coal, oil, and mineral extraction. This pattern drew substantial criticism from international environmental groups (Wen, 2025). In response, China announced in 2021 that it would **cease financing new overseas coal projects**, a landmark policy decision that signaled the start of a "Green BRI" era.

Since then, Chinese companies have increased their engagement in **renewable energy and green manufacturing**. For example, solar and wind energy investments now represent nearly **40% of China's overseas energy portfolio**

under the BRI (Green Finance & Development Center, 2025). Firms like PowerChina and China Energy Engineering Group have implemented wind power projects in Egypt, Pakistan, and Kazakhstan, while JinkoSolar has established photovoltaic manufacturing partnerships in Southeast Asia. These initiatives demonstrate that sustainability is no longer an afterthought but an emerging core strategy for competitive advantage.

Nevertheless, sustainability integration remains **asymmetric across sectors and regions**. While renewable energy and digital economy projects show strong progress, extractive and transport projects often lag behind in implementing environmental safeguards. Moreover, Chinese corporate sustainability efforts frequently emphasize environmental outcomes while underplaying **social and governance dimensions**, such as labor rights, community engagement, and gender inclusion (Ramasamy & Yeung, 2024).

The “Green BRI” is also part of China’s larger diplomatic narrative of “**ecological civilization**”, aligning domestic climate policies with international cooperation goals. The Ministry of Commerce (MOFCOM) and the Ministry of Ecology and Environment (MEE) jointly issued the “Guidelines for Green Overseas Investment” (2022), encouraging companies to align projects with host-country climate commitments and the Paris Agreement. However, these guidelines remain voluntary, and their enforcement mechanisms are still evolving (Feng & Huang, 2022).

4. Comparative Development Outcomes

Cross-country evidence shows significant variation in the **development outcomes of BRI-related corporate activity**. In Southeast Asia, Chinese firms have made tangible contributions to industrial capacity and employment generation. The China-Malaysia Industrial Park and Indonesia’s Morowali Nickel Industrial Zone, for instance, have catalyzed local industrial upgrading and supply-chain integration. Conversely, in parts of Central Asia and Sub-Saharan Africa, BRI projects have been slower to produce lasting economic diversification or institutional strengthening (IISS, 2023).

A recurring challenge across regions is the **limited participation of local firms and communities** in project cycles. The heavy reliance on Chinese contractors and suppliers restricts opportunities for domestic entrepreneurship. While some countries—such as Kenya and Pakistan—have negotiated local content clauses, enforcement remains inconsistent. Studies by the World Bank and UNCTAD (2024) confirm that although Chinese investments have improved physical infrastructure and connectivity, they have not always generated inclusive, broad-based development benefits.

From the Chinese corporate perspective, this outcome reflects a **tension between commercial imperatives and developmental mandates**. Many BRI firms operate under hybrid motivations—seeking profits while fulfilling state strategic goals. The result is a “dual accountability gap”: firms are not fully accountable to host-country stakeholders, nor entirely autonomous from state directives. This dynamic complicates efforts to institutionalize best practices in corporate sustainability.

5. Emerging Trends and Strategic Adjustments

Recent data indicate a strategic adjustment among Chinese firms toward **risk management, diversification, and green innovation**. Following the global pandemic and the debt crises of several partner economies, firms have recalibrated their BRI engagement from large-scale, state-led megaprojects to **smaller, commercially viable ventures**. There is also a growing emphasis on **joint ventures and public-private partnerships (PPPs)** to share financial risks and ensure local participation (Zhang & Li, 2024).

In parallel, the **Digital Silk Road (DSR)** is emerging as the new frontier of corporate competitiveness. Chinese companies are leveraging their comparative advantage in telecommunications, artificial intelligence, and fintech to expand into digital infrastructure projects. These sectors not only offer higher value-added returns but also align with sustainability goals through reduced carbon footprints and enhanced efficiency.

Overall, the discussion suggests that Chinese firms are transitioning from a quantitative

growth model—dominated by construction and financing volumes—to a **qualitative growth model** characterized by innovation, sustainability, and multi-stakeholder governance. Yet, the pace and depth of this transformation remain contingent upon the interplay between Chinese policy reforms, host-country institutional quality, and global sustainability norms.

6. Synthesis: From Silk to Sustainability

Bringing these findings together, it is evident that Chinese companies' development performance under the BRI has evolved through distinct phases. The **first phase (2013–2017)** prioritized connectivity and industrial capacity export—the “Silk” stage. The **second phase (2018–2021)** emphasized diversification and technology diffusion. The **current phase (2022 onward)** is increasingly oriented toward sustainability, digitalization, and corporate social responsibility—the “Sustainability” stage. While progress is clear, structural gaps remain between ambition and practice. The BRI's sustainability narrative has yet to be consistently translated into corporate operational standards across all projects. Achieving this transformation will require not only stronger regulatory guidance from Beijing but also deeper cooperation with host-country institutions, international development agencies, and civil-society organizations.

Ultimately, the transition “**from Silk to Sustainability**” captures both the success and limitations of China's global economic outreach. It reflects a learning process in which Chinese firms are gradually aligning their global strategies with 21st-century development paradigms—balancing economic gain with ecological and social responsibility.

Conclusion

The Belt and Road Initiative (BRI) has evolved from being a largely infrastructure-driven economic strategy to a multidimensional global development framework with expanding emphasis on sustainability, digitalization, and corporate responsibility. This study, through secondary research and theoretical synthesis, examined how the participation of Chinese companies in the BRI has influenced their **development performance**, both economically

and institutionally, and to what extent sustainability principles have been incorporated into their operations. The findings show that while Chinese companies have achieved remarkable global expansion, the translation of this economic success into sustainable and inclusive development remains inconsistent across sectors and regions.

From an **economic standpoint**, the BRI has been transformative for Chinese companies. Since 2013, more than one trillion dollars in combined investments and construction contracts have enabled Chinese firms to internationalize at an unprecedented scale (Green Finance & Development Center, 2025). Firms such as PowerChina, China Communications Construction Company (CCCC), and China Railway Group have become transnational actors shaping infrastructure development across Asia, Africa, and Europe. This expansion has supported China's domestic agenda of capacity utilization and industrial upgrading while providing developing nations with much-needed infrastructure. However, the economic gains achieved by these firms are not always mirrored by equally positive **developmental spillovers** in host countries. Evidence indicates limited local value-addition, uneven technology transfer, and insufficient integration of local suppliers and workers (Ramasamy & Yeung, 2024). Thus, while the BRI has facilitated connectivity and economic growth, its broader developmental impact requires greater emphasis on local participation and capacity-building.

The analysis also revealed complex patterns of **corporate governance and institutional behavior** among Chinese firms operating abroad. State-owned enterprises (SOEs), endowed with strong financial and managerial capacities, have successfully executed large-scale projects but often under frameworks lacking transparency and accountability. In contrast, private Chinese firms, while more agile, struggle with regulatory fragmentation and limited institutional support (Zhang & Li, 2024). Governance challenges persist in areas such as procurement transparency, environmental compliance, and stakeholder engagement, especially in host countries with weaker institutions (IISS, 2023). Nonetheless, the introduction of China's **Green Development**

Guidelines (2021) and Guidelines for Green Overseas Investment (2022) marks a turning point toward institutionalizing better governance and sustainability standards. The challenge now lies in ensuring that these frameworks move beyond policy declarations and become embedded within the operational culture of Chinese enterprises.

Perhaps the most significant evolution in recent years is the emergence of a “**Green BRI**”. The Chinese government’s 2021 pledge to halt financing of new overseas coal projects was a watershed moment that repositioned the BRI’s environmental agenda (Wen, 2025). Chinese companies are now investing heavily in renewable energy, electric mobility, and sustainable urban development. The Green Finance & Development Center (2025) notes that solar and wind power projects accounted for nearly 40 % of new Chinese overseas energy investments in 2024, signaling a tangible shift from fossil-fuel dependency toward greener alternatives. This transition reflects not only China’s adaptation to global sustainability norms but also its recognition that environmental responsibility has become a core determinant of competitiveness in international markets. Still, the integration of sustainability remains partial—often environmental in focus but weak in social inclusivity and governance accountability (Feng & Huang, 2022).

In synthesizing these findings, it becomes evident that the development performance of Chinese companies under the BRI can best be understood through the **intersection of developmental state theory and global value chain (GVC) dynamics**. The developmental state framework explains the continued strategic coordination between the Chinese government and its firms abroad, while GVC theory highlights the challenges of achieving deeper integration and value-capture within host economies. Together, they reveal a structural tension between the commercial imperatives of Chinese corporations and the developmental aspirations of partner countries. Theories of sustainable development and corporate social responsibility (CSR) add a normative layer—emphasizing that genuine development performance must encompass not just economic metrics, but environmental

stewardship, social equity, and transparent governance.

Moving forward, **policy implications** emerge on multiple levels. For the **Chinese government**, continued progress toward the “Green BRI” requires institutionalizing environmental, social, and governance (ESG) criteria across all outbound investment channels. This includes mandating sustainability reporting, enhancing risk assessment mechanisms, and incentivizing firms that achieve verifiable developmental impact. For **Chinese firms**, the challenge lies in balancing profitability with responsibility. Building partnerships with local firms, adopting international sustainability standards (e.g., ISO 26000, UN Global Compact), and establishing robust stakeholder-engagement processes can strengthen their legitimacy and long-term performance abroad.

For **host countries**, maximizing the benefits of BRI engagement demands proactive governance. Governments must negotiate contracts that ensure local content, transparent procurement, and environmental protection. Strengthening regulatory institutions and civil-society participation can help ensure that BRI projects align with national development strategies and Sustainable Development Goals (SDGs). International organizations such as the World Bank, UNCTAD, and regional development banks also have a role to play in facilitating technical assistance, monitoring, and knowledge exchange to ensure that the BRI contributes to inclusive development rather than debt dependency.

A critical insight from this research is that the **transformation from “Silk to Sustainability” is evolutionary rather than revolutionary**. The early phase of the BRI (2013–2017) emphasized infrastructure expansion, the middle phase (2018–2021) integrated digitalization and industrial upgrading, and the current phase (2022 onward) is progressively embedding sustainability into the core logic of Chinese overseas engagement. Yet, achieving full sustainability alignment requires deeper structural reforms—such as integrating ESG into the performance evaluations of state-owned enterprises, enhancing transparency in financing, and developing cross-border sustainability verification systems.

This study also underscores the **need for balanced narratives** in understanding the BRI. Western discourse often portrays it as a geopolitical strategy for Chinese dominance, while Chinese narratives emphasize win-win development. The truth likely lies in between: the BRI is simultaneously an instrument of state strategy and a platform for global economic collaboration. Chinese companies, therefore, operate within this duality—navigating between market logic and state direction, profit motives and developmental commitments. Their success in balancing these imperatives will determine the BRI's ultimate contribution to sustainable globalization.

In conclusion, the Belt and Road Initiative has provided Chinese companies with unprecedented global exposure and has reshaped international economic geographies. Yet, the measure of their success must extend beyond profits and project volumes. True development performance involves the capacity to generate local employment, foster technology transfer, enhance institutional quality, and protect the environment. The transition “from Silk to Sustainability” is ongoing, marked by progress, contradictions, and learning. The BRI's next decade will likely define whether this transformation results in a genuinely sustainable model of global development or remains an extension of China's industrial expansionism.

For scholars and policymakers alike, future research should focus on longitudinal assessments of Chinese corporate practices, cross-country comparisons of BRI outcomes, and empirical evaluations of sustainability impacts using mixed-method approaches. Such research will be essential to move beyond political narratives toward an evidence-based understanding of how Chinese companies can contribute to equitable, sustainable, and inclusive global development.

REFERENCES

- ▯ Dollar, D. (2019). *Understanding China's Belt and Road Infrastructure Projects*. Brookings Institution.
- ▯ Elkington, J. (1997). *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*. Capstone.
- ▯ Evans, P. (1995). *Embedded Autonomy: States and Industrial Transformation*. Princeton University Press.
- ▯ Gereffi, G. (2018). *Global Value Chains and Development*. Cambridge University Press.
- ▯ Green Finance & Development Center. (2025). *China Belt and Road Initiative Investment Report 2024*. FISF Fudan University.
- ▯ Hillman, J. (2020). *The Emperor's New Road: China and the Project of the Century*. Yale University Press.
- ▯ Hurley, J., Morris, S., & Portelance, G. (2018). *Examining the Debt Implications of the Belt and Road Initiative from a Policy Perspective*. Center for Global Development.
- ▯ Johnson, C. (1982). *MITI and the Japanese Miracle: The Growth of Industrial Policy*. Stanford University Press.
- ▯ Liu, W., & Dunford, M. (2016). Inclusive globalization: Unpacking China's Belt and Road Initiative. *Area Development and Policy*, 1(3), 323–340.
- ▯ Ministry of Commerce (MOFCOM) & Ministry of Ecology and Environment (MEE). (2021). *Guidelines for Green Development in Outbound Investment and Cooperation*. Beijing.
- ▯ Naughton, B. (2018). *The Chinese Economy: Adaptation and Growth (2nd ed.)*. MIT Press.
- ▯ Rolland, N. (2019). *China's Vision for a New World Order*. National Bureau of Asian Research.
- ▯ State Council of China. (2024). *White Paper: The Belt and Road Initiative—A Decade of Cooperation*. Beijing.
- ▯ Summers, T. (2016). China's “New Silk Roads”: Sub-national regions and networks of global political economy. *Third World Quarterly*, 37(9), 1628–1643.
- ▯ Tan-Mullins, M., Mohan, G., & Power, M. (2020). Redefining “Green”: China's environmental engagement along the Belt and Road. *Sustainability*, 12(6), 2298.
- ▯ Wen, J. (2025). *Greening the Belt and Road: Corporate Sustainability and Environmental Governance*. Tsinghua University Press.

- ▮ Zhang, X., & Chen, Y. (2022). State-owned vs. private: Chinese companies' ESG performance under BRI. *Journal of Contemporary China*, 31(134), 201–220.
- ▮ Zhou, Y., & Esteban, M. (2018). Beyond the Green Myth: BRI and global sustainability governance. *Environmental Politics*, 27(5), 850–869.*
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
 - Bryman, A. (2016). *Social Research Methods* (5th ed.). Oxford University Press.
 - Creswell, J. W., & Poth, C. N. (2018). *Qualitative Inquiry and Research Design: Choosing among Five Approaches* (4th ed.). SAGE.
 - Dollar, D. (2019). *Understanding China's Belt and Road Infrastructure Projects*. Brookings Institution.
 - Elkington, J. (1997). *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*. Capstone.
 - Green Finance & Development Center. (2025). *China Belt and Road Initiative Investment Report 2024*. FISF Fudan University.
 - Hillman, J. E. (2020). *The Emperor's New Road: China and the Project of the Century*. Yale University Press.
 - Liu, W., & Dunford, M. (2016). Inclusive globalization: Unpacking China's Belt and Road Initiative. *Area Development and Policy*, 1(3), 323–340.
 - Ministry of Commerce (MOFCOM) & Ministry of Ecology and Environment (MEE). (2021). *Guidelines for Green Development in Outbound Investment and Cooperation*. Beijing.
 - Naughton, B. (2018). *The Chinese Economy: Adaptation and Growth* (2nd ed.). MIT Press.
 - Tan-Mullins, M., Mohan, G., & Power, M. (2020). Redefining "Green": China's environmental engagement along the Belt and Road. *Sustainability*, 12(6), 2298.
 - Wen, J. (2025). *Greening the Belt and Road: Corporate Sustainability and Environmental Governance*. Tsinghua University Press.
- Zhang, X., & Chen, Y. (2022). State-owned vs. private: Chinese companies' ESG performance under BRI. *Journal of Contemporary China*, 31(134), 201–220.
- Zhou, Y., & Esteban, M. (2018). Beyond the Green Myth: BRI and global sustainability governance. *Environmental Politics*, 27(5), 850–869.*
- Feng, L., & Huang, Z. (2022). Environmental governance and corporate responsibility in the Belt and Road Initiative. *Journal of Cleaner Production*, 364, 132749.
- Green Finance & Development Center. (2025). *China Belt and Road Initiative Investment Report 2024*. FISF, Fudan University.
- International Institute for Strategic Studies (IISS). (2023). *China's Belt and Road: Evolving Patterns of Engagement*. London: Routledge.
- McBride, J., Berman, N., & Chatzky, A. (2023). *The Belt and Road Initiative: China's Global Infrastructure Strategy*. Council on Foreign Relations.
- Ramasamy, B., & Yeung, M. (2024). Chinese investment and sustainable development under the BRI: Patterns and prospects. *World Development*, 176, 106233.
- Wen, X. (2025). Green Belt and Road: Assessing China's sustainability transition. *Environmental Economics and Policy Studies*, 27(1), 45–69.
- Zhang, H., & Li, J. (2024). Corporate governance and risk management in Chinese overseas investments. *Journal of International Business Studies*, 55(3), 421–446.
- World Bank & UNCTAD. (2024). *Belt and Road Economics: Opportunities and Risks of Transport Corridors* (2024 update). Washington, DC.
- ▮ Feng, L., & Huang, Z. (2022). *Environmental governance and corporate responsibility in the Belt and Road Initiative*. *Journal of Cleaner Production*, 364, 132749.
- ▮ Green Finance & Development Center. (2025). *China Belt and Road Initiative Investment Report 2024*. FISF, Fudan University.

- ▯ International Institute for Strategic Studies (IISS). (2023). *China's Belt and Road: Evolving Patterns of Engagement*. London: Routledge.
- ▯ Ramasamy, B., & Yeung, M. (2024). *Chinese investment and sustainable development under the BRI: Patterns and prospects*. *World Development*, 176, 106233.
- ▯ Wen, X. (2025). *Green Belt and Road: Assessing China's sustainability transition*. *Environmental Economics and Policy Studies*, 27(1), 45–69.
- ▯ Zhang, H., & Li, J. (2024). *Corporate governance and risk management in Chinese overseas investments*. *Journal of International Business Studies*, 55(3), 421–446.

