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Critical Success Factors for Sustainable Logistics MNE Strategy in China

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Abstract

Background: This study examines how logistics multinational enterprises (MNEs) operating in China shape and adapt their strategies under complex institutional and competitive conditions. Existing research provides limited insight into how foreign logistics MNEs adjust strategy after market entry and sustain competitive performance over time. *Methods*: A qualitative longitudinal case-study design was employed using 217 sources collected over nine years, including expert interviews, televised professional interviews, media reports, and company publications. The study develops the Tent Pole Strategy Framework by integrating ownership, location, and internalisation considerations with firm resources, industry competition, and institutional conditions. *Results*: The findings identify five strategic capabilities that emerge as critical success factors: strategic service portfolio adaptation, technology-enabled customer integration, organisational capability and talent development, institutional embeddedness and local footprint, and strategic governance and market penetration. *Conclusions*: The study contributes to logistics and international business research by explaining post-entry adaptation and sustained competitive performance among logistics MNEs operating in China. It extends understanding of how strategic capabilities support long-term strategic viability in a complex institutional environment.

Keywords: logistics multinational enterprises; post-entry adaptation; strategic capabilities; institutional embeddedness; China; case study

1. Introduction

Internationalisation continues despite slower and less predictable global business development [1,2]. Volatility in the economic environment has increased uncertainty for global supply chains and the logistics sector in particular. Logistics multinational enterprises can nevertheless build competitive advantage when their international activities respond to market requirements [3,4]. Their strategic choices depend on how ownership advantages, location conditions, and the organisation of cross-border activities support value creation and expansion [5–9].

Although researchers have extensively examined entry strategies and location determinants for FDI in Chinese manufacturing sectors [10–12], logistics MNE strategy in China remains underexplored. China offers substantial opportunities for logistics MNEs that align their strategies with market requirements [13–15]. Existing logistics research has largely examined domestic development, sector-level change, growth effects, and spillovers for the host economy [16,17]. It therefore provides limited explanation of how foreign logistics MNEs adapt after entry or which strategic capabilities constitute critical success factors for

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sustained competitive performance and long-term strategic viability in China. The present study addresses that gap [18].

In this study, success means meeting strategically important objectives in the Chinese market and maintaining performance over time. The analysis examines five capabilities that support these objectives. Strategic service portfolio adaptation refers to adjusting services to local demand. Technology-enabled customer integration concerns the use of technology to connect services more closely with customer needs. Organisational capability and talent development include management practice, workforce skills, and learning. Institutional embeddedness and local footprint concern relationships with local institutions and the scale and credibility of a firm's presence in China. Strategic governance and market penetration refer to ownership, partnership, and market-entry arrangements that support further growth. Performance covers the strategic and operational outcomes associated with these capabilities, including service effectiveness, competitive position, organisational capability, market penetration, and the ability to sustain results. Sustainable strategy refers to the choices and capabilities that support continued competitive performance and long-term strategic viability. Unless stated otherwise, sustainable is used in this strategic and temporal sense rather than in an ecological or environmental sense.

The paper proceeds as follows. Section 2 reviews the literature on international logistics MNEs and examines ownership, location, and internalisation considerations in the Chinese context. Sections 3 and 4 develop the Tent Pole Strategy Framework by integrating the research framework with a dynamic-capabilities perspective. Section 5 explains the research design, Section 6 presents the findings, and Section 7 discusses their implications. Section 8 presents the conclusions, limitations, and directions for future research.

2. Literature Review

Research in international business strategy has rarely treated logistics as a central element of multinational enterprise strategy, and logistics research itself has more often emphasised operational performance than post-entry strategic adaptation [19]. Both logistics research and the broader supply-chain literature highlight how operational capabilities, process design, and risk management shape the conditions under which strategic adaptation becomes necessary [4,20]. Foreign logistics firms in China continue to adjust their service portfolios, organisational structures, and digital capabilities in response to evolving regulatory conditions and the rapid platformisation of the logistics sector, a pattern documented in recent analyses of foreign firm participation in China's logistics ecosystems. Although China has expanded its logistics infrastructure and promoted digitalisation, the sector still displays considerable variation in technological adoption and data integration, which affects the service capabilities of foreign providers [21,22].

Limited attention has been given to the strategic processes through which logistics MNEs adjust their investment patterns and service portfolios in response to these institutional and competitive conditions. Studies indicate that foreign logistics firms frequently modify organisational structures, expand into value-added services and reconfigure regional networks as they respond to regulatory change, domestic competition and evolving customer requirements. Work examining foreign firms in China highlights how post-entry adjustments are shaped by digitalisation pressures, regulatory change and the demands of domestic platform ecosystems [21,23]. Broader supply-chain research similarly highlights the need for firms to revise processes, strengthen coordination and improve information flows when operating in volatile environments, which is relevant for logistics MNEs navigating China's institutional complexity. These post-entry adaptations are central to understanding how logistics MNEs maintain performance in China's rapidly changing market [24]. Investment decisions by logistics MNEs continue to be influenced by the

three major OLI parameters of ownership advantages (O), location attractions (L) and internalisation benefits (I), as originally formulated by Dunning [25]. These parameters are discussed further below.

Ownership is strategically important for logistics MNEs in China because formal rules and state-led institutions shape market access, permissible ownership forms, and compliance obligations [19,26]. Although foreign participation in logistics has progressively opened, regulatory conditions and changing restrictions continue to influence how foreign providers establish and govern their operations [27]. Effective ownership structures therefore help firms maintain operational control while responding to regulatory change [26,28]. Choices between wholly owned subsidiaries and joint ventures affect control over assets, strategic flexibility, and the ability to adapt organisational arrangements as market conditions evolve [27,29,30]. In this context, ownership advantages increasingly derive from specialised logistics expertise, global network integration, and the ability to interface with China's digital logistics platforms.

In China, location advantages arise from infrastructure, market size, institutional conditions, regional policy variation, and the presence of free trade zones [31]. For foreign logistics MNEs, these conditions directly affect costs, market access, and performance. Multinational 3PL providers report challenges related to guanxi, regulation, price pressure, and transport costs [29], while evidence from China's 3PL sector indicates that governance mechanisms differ in effectiveness for foreign and domestic firms [32]. As Dunning and Lundan [33] argue, location is not a secondary consideration: the configuration of value-adding activities across countries affects the costs and benefits of operating in particular places and interacts with firm advantages and governance choices. Globalisation has increased the importance of created assets, including infrastructure quality, knowledge resources, and institutional conditions, while intensifying competition among host countries to offer location advantages suited to MNE needs [34]. A co-evolutionary perspective further suggests that MNE strategies and local institutions adapt over time as subsidiaries gain autonomy and undertake new initiatives [35]. Location therefore encompasses not only geography but also the formal and informal rules that shape cross-border operations and coordination [36].

Internalisation advantages explain why multinational enterprises (MNEs) organise cross-border activities internally rather than through market transactions such as licensing or outsourcing [37]. They arise from the need to protect proprietary technologies, ensure service quality and manage complex cross-border logistics flows within the firm. Together, these factors help explain how logistics MNEs in China navigate institutional complexity and sustain competitive performance through ongoing strategic adjustment. In logistics, internalisation is particularly relevant due to the coordination-intensive nature of operations and the need to control and refine information flows, service reliability, and network integration [38]. Logistics MNEs possess firm-specific assets such as global networks, advanced IT platforms, and standardised operating procedures. Internalisation enables the consistent deployment of these assets across borders while safeguarding service quality and operational control. Empirical studies of foreign third-party logistics providers in China indicate that formal control mechanisms and Western-style relational governance are more effective for foreign firms than for domestic competitors, reflecting different asset-protection and governance requirements [32].

The role of internalisation is further conditioned by China's location advantages. China offers strong demand-side and infrastructural benefits because of its market size, manufacturing concentration, and centrality in global trade [39]. However, these advantages coexist with institutional complexity, regulatory heterogeneity, and uneven enforcement. These conditions increase uncertainty and transaction costs for foreign firms, reduce the effi-

ciency of arm's-length arrangements, and strengthen incentives to internalise core logistics functions, particularly network coordination and information management [19,40].

MNE activity is shaped by how firms deploy OLI advantages, as these characteristics vary across countries, industries, and firm-level structures. Although early criticism suggested that OLI can appear static and may not fully capture strategic adjustment in emerging-market settings [41,42], subsequent work shows that the framework remains useful when interpreted with greater flexibility [43]. Other interpretations reinforce how MNEs adjust through ongoing adaptation and accommodation within complex environmental and structural conditions, particularly as location-specific advantages evolve in modern logistics and other multinational settings [33,35,44].

China's logistics system is developing rapidly towards a more environmentally sustainable and digital future. Environmental sustainability is considered here as part of the regulatory and technological context and is distinct from the meaning of sustainable strategy used elsewhere in this study. As post-study context rather than evidence from the nine-year dataset, the 14th Five-Year Plan focuses on safer, smarter, and more efficient logistics networks [45], while the 15th Five-Year Plan requires 20% of heavy-duty trucks to be electric by 2030, supported by zero-carbon corridors and battery-swapping stations [46,47]. By late 2025, China had deployed 210,000 heavy electric trucks, representing year-on-year growth of 62% and indicating a rapid fleet transition. These vehicles replace diesel trucks and use large battery packs or rapid battery-swapping systems designed for long-haul logistics [48].

Under Dunning's OLI framework, these strategic policies reshape how foreign logistics MNEs operate. Ownership (O) advantages are challenged by the early loss of value in diesel trucks, pushing firms to invest sooner in electric fleets. Location (L) advantages now depend on meeting environmental rules. Internalisation (I) advantages grow as competition shifts toward cleaner and more efficient technologies, encouraging MNEs to rely more on their own compliant fleets to manage risk and maintain service quality.

3. Research Framework Development

In practice, the interaction between internalisation and location advantages has resulted in differentiated governance structures across logistics sectors. Research on multinational enterprises shows that firms frequently adopt hybrid governance arrangements, combining internalised core activities with selective partnerships or joint ventures to accommodate regulatory constraints and access host-country resources [49]. The internalisation dimension functions as a mediating mechanism that aligns ownership advantages with location-specific conditions. For logistics MNEs in China, the objective is not maximal hierarchy but efficient governance that enables economies of scale and scope while limiting institutional risk.

In logistics and supply chain contexts, hybrid structures enable multinational providers to retain control over knowledge-intensive and coordination-critical activities while leveraging local partners' institutional embeddedness and distribution networks [32,50]. Such arrangements reflect strategic internalisation rather than partial externalisation. The analysis also draws on Peng's unified framework [51], which links firm resources, industry competition, and institutions. Combined with the OLI dimensions, it helps explain sustained competitive performance in China's changing logistics market and why firms facing similar conditions may follow different strategic paths.

Peng's framework explains firm performance through the interaction of firm resources, industry conditions, and formal and informal institutions. Formal institutions include laws and regulations, whereas informal institutions include norms, values, and established business practices [51,52]. In this study, these institutional conditions help explain why logistics MNEs facing similar market conditions may adopt different strategic responses and achieve different levels of sustained competitive performance and long-term strategic viability.

4. Dynamic Capabilities of a Logistics MNE

Given the strategic focus on logistics MNEs, sustained competitive advantage can be best understood by integrating dynamic capabilities with the internalisation dimension of the OLI framework and with Peng's strategy tripod. Dynamic capability theory explains how firms maintain competitiveness through firm-specific processes, assets, and path-dependent strategic choices that enable adaptation in volatile environments [53,54]. For logistics MNEs, internalisation provides the governance conditions under which these capabilities can be deployed across borders: retaining coordination-critical and knowledge-intensive activities within the firm allows MNEs to protect proprietary knowledge, coordinate dispersed resources, and reconfigure operations without relying on imperfect external markets [55,56]. Dynamic capabilities therefore operationalise the internalisation advantage by enabling internally controlled resources and routines to be transferred, adapted, and recombined across locations.

Within Peng's strategy tripod, dynamic capabilities align primarily with the resource-based view, while their deployment and effectiveness are shaped by industry conditions and institutional frameworks [51]. The logistics industry is characterised by high asset specificity, strong network interdependencies, and significant exposure to regulatory and infrastructural constraints. Consequently, institutions do not merely form the background of competition but directly influence how logistics MNEs internalise activities and transfer capabilities across locations, particularly in emerging economies such as China [36].

Recent logistics-focused research strengthens this integrative perspective. Studies show that logistics capabilities related to digitalisation, innovation, resilience, and information integration can evolve into dynamic capabilities when systematically internalised and coordinated at the MNE level, thereby supporting both adaptability and long-term performance [57,58]. At the macro-level, evidence from China demonstrates that logistics development follows a dynamic and uneven pattern of evolution, shaped by infrastructure investment, regional disparities, and institutional support, while at the same time exerting a significant catalytic effect on economic growth [59]. These findings underline that the effectiveness of firm-level dynamic capabilities is closely interlinked with location- and institution-specific conditions, emphasising the relevance of combining OLI internalisation logic with Peng's institution-based view when analysing logistics MNE strategies in China.

Taken together, the discussion of logistics MNEs and the ownership, location, and internalisation considerations relevant to the Chinese market leads to the conceptual framework shown in Figure 1. The framework positions sustained competitive performance and long-term strategic viability as the main objectives of logistics MNE strategy. It combines Dunning's Eclectic Paradigm [25] with Peng's Strategy Tripod [51] to show how the main dimensions of MNE strategy interact in the Chinese context.

Dunning's Eclectic Paradigm [25] forms the outer constructs of the conceptual model. Dunning characterises the OLI paradigm as a broad structure capable of accommodating complementary perspectives. That flexibility is important here because OLI helps distinguish FDI by logistics MNEs from other ways of securing a position in a foreign market. The performance of a logistics MNE depends in large part on how effectively it uses and develops its capabilities across borders. The OLI dimensions therefore serve as the core structural pillars of the framework by explaining how value-adding activities are organised and controlled internationally.

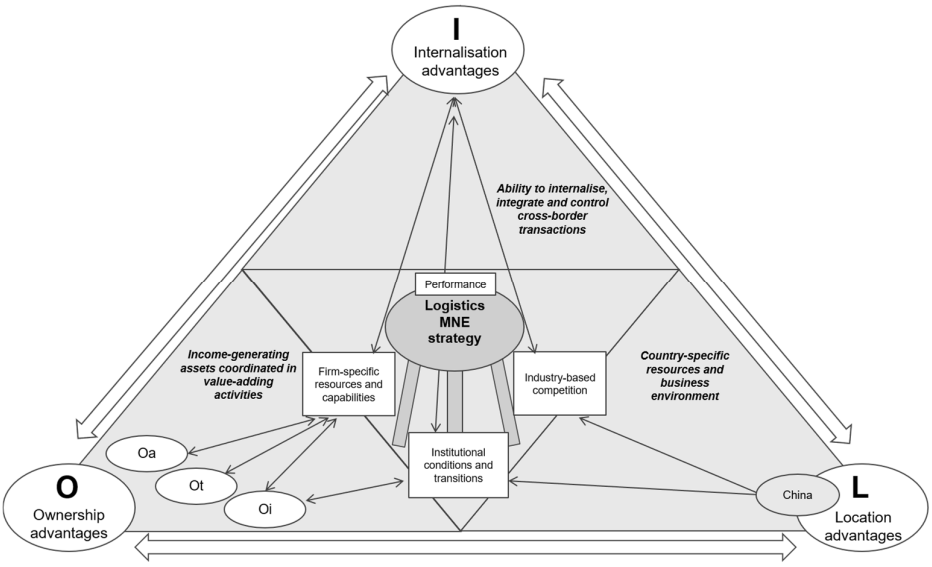

Figure 1. Advanced Conceptual Framework: The Tent Pole Strategy Framework for Logistics MNEs.

Against the backdrop of a still highly connected world economy, it remains important to understand how China-based logistics networks continue to evolve in response to geopolitical and economic volatility [2]. At the same time, China's logistics sector is moving into a new phase of digitalisation, and these developments are increasingly visible across the industry rather than limited to a small number of frontrunners [60]. Recent empirical evidence from Chinese listed firms suggests that digital transformation can translate into measurable gains in supply chain efficiency, although the size of these benefits differs across firms and contexts [61]. In parallel, market overviews indicate that the logistics system continued to expand during the 14th Five-Year Plan period, reflected in rising activity indicators and ongoing network development [40]. Finally, case-based evidence illustrates how logistics operators can operationalise digital integration across both physical and intangible flows, providing a practical reference point for what integration means in everyday logistics execution [62].

Logistics strategy in China is a path-dependent and adaptive activity [35,44,53,54]. It develops through prior investment choices and continues to develop in response to regulatory, technological, and market change. This leads us to the following research question:

RQ: Which strategic capabilities inform critical success factors enabling logistics MNEs operating in China to achieve sustained competitive performance and long-term strategic viability?

5. Methodology

To address the research question, the study applies the conceptual framework to Dunning's [25] OLI dimensions of ownership, location, and internalisation and to the three elements of Peng's Strategy Tripod [51]: firm-specific resources and capabilities, industry-based competition, and the institutional environment. The Tent Pole Strategy Framework supports an inductive design based on multiple qualitative sources. Accordingly, the study adopts an interpretivist qualitative approach suited to examining how strategic decisions are formed, interpreted, and adapted in a complex and evolving market environment.

A qualitative longitudinal case study is appropriate because it captures strategic adaptation over time rather than inferring it from a single cross-sectional snapshot. This choice also aligns with broader calls in logistics and supply chain research for more interpretive

and context-sensitive qualitative designs when studying complex and practice-embedded phenomena [63,64].

An inductive design with access to primary data from logistics MNEs operating in the Chinese market is well suited to addressing the research question and prior theory that offers limited insight into how logistics MNEs make and adapt strategic choices in China. Much of the existing work on logistics and supply chain management in the Chinese context relies on quantitative models or survey data, with strong attention to location determinants, operational efficiency, and performance relationships [63,65]. While this body of work is valuable, it says less about how firms interpret complexity, prioritise investments, and adjust strategy over time.

The study required a design that could follow how foreign logistics MNEs responded to regulatory change, competitive pressure, and shifts in customer demand in China. A qualitative inductive approach made it possible to compare how firms interpreted these conditions, prioritised investments, and revised strategic decisions over time. The analysis draws on company publications, televised professional interviews, expert interviews, and independent media sources collected over nine years. Using these sources together allowed explanations to be developed from recurring evidence across firms and periods rather than from static variables or predefined hypotheses.

The longitudinal qualitative study draws on 217 sources collected over a nine-year period: 35 televised professional interviews with senior managers of logistics MNEs, 150 international media publications, 20 company publications, and twelve semi-structured expert interviews lasting approximately 70 min each. This temporally layered dataset makes it possible to trace the development of logistics MNE strategies in China, assess the framework determinants, and identify context-specific critical success factors.

To enhance analytical transparency, an evidence trail was maintained throughout the coding process. Evidence from company publications, televised professional interviews, expert interviews, and independent media sources was initially coded using descriptive first-order categories. Through iterative comparison across the eight cases, related first-order codes were consolidated into second-order themes. Four broad themes were then used to structure the empirical context and findings. A subsequent cross-case synthesis connected recurring firm-level patterns directly to five strategic capabilities that constitute the study's critical success factors: strategic service portfolio adaptation; technology-enabled customer integration; organisational capability and talent development; institutional embeddedness and local footprint; and strategic governance and market penetration (see Tables 3 and A1). Only patterns supported by multiple firms and multiple source types were retained in the final cross-case framework.

Case selection followed purposive sampling. The study focused on eight firms: DHL, UPS, FedEx, DB Schenker, Kuehne + Nagel, TNT, CEVA Logistics, and Panalpina. Each had a significant operational presence in China and provided sufficient evidence over time for cross-case comparison. Their investment activities were also relevant to long-term market development and competitive positioning. Together, the cases cover express delivery, freight forwarding, contract logistics, supply-chain management, rail logistics, and integrated logistics services. They differ in their service portfolios, governance arrangements, organisational structures, and approaches to market penetration, but operate within the same broad institutional and competitive environment.

Table 1 summarises the focal cases and the principal firm-specific sources used in the analysis.

Table 1. Focal Cases and Evidence Base.

Logistics MNE	Case Type	Key Sources
DHL	Global logistics leader	Televised professional interviews (V-1–V-11); company publications (C-1–C-3, C-17); media reports (M-4, M-15, M-24, M-61); expert interviews (I-7, I-8, I-11)
UPS	Global integrator	Televised professional interviews (V-12–V-16); company publications (C-4–C-6); media reports (M-34, M-107, M-148)
FedEx	Global integrator	Televised professional interviews (V-17–V-23); company publications (C-7–C-8); media reports (M-57, M-106, M-108)
DB Schenker	Freight forwarding and rail logistics	Televised professional interviews (V-25–V-28); company publications (C-9–C-10, C-19–C-20); media report (M-122)
Kuehne + Nagel	Global forwarding specialist	Televised professional interview (V-29); company publications (C-11–C-12, C-18); media report (M-13)
TNT	Express logistics provider	Televised professional interview (V-35); media reports (M-23, M-50, M-87)
CEVA Logistics	Contract logistics provider	Televised professional interviews (V-33–V-34); company publications (C-13–C-14); media report (M-145)
Panalpina	Freight forwarding provider	Televised professional interviews (V-30–V-32); company publications (C-15–C-16); media report (M-115)

Table Note: Cases were selected because they represented the largest and most established foreign logistics providers operating in China and collectively covered the principal logistics segments relevant to the study. Source: Developed by the authors from the study dataset. The Key Sources column presents selected case-level sources rather than an exhaustive inventory. Table A1 includes DHL media reports M-94 and M-150 as additional representative evidence, while Appendix A documents the complete identifier ranges for all four source categories. V-24 provided cross-case contextual evidence and was therefore not assigned to a specific focal MNE.

6. Findings

The temporally layered dataset shows how logistics MNE strategies developed in China and how the framework determinants shaped context-specific critical success factors. Recurring patterns, changes over time, and tensions across the evidence initially pointed to eight themes. Further comparison brought the overlapping themes together into four consolidated themes that structure the empirical results [18].

The theme development followed an inductive–deductive procedure. Initial coding produced a broad set of descriptive categories. These categories were refined through repeated comparison across interviews, company publications, media sources, and televised professional interviews. The temporal span of the dataset was essential because it allowed changes in regulatory conditions, market dynamics, and strategic responses to be identified over time. Strategic inflection points, including regulatory reforms, the expansion of multimodal transport, and the acceleration of e-commerce, became visible only through this layered approach.

The first cycle of coding resulted in eight themes that reflected the breadth of determinants influencing logistics MNE strategy in China. These included economic development, FDI conditions, logistics market trends, market structure, MNE strategic behaviour, competitive advantages, strategic levers and applied strategies. Cross-theme comparison showed substantial overlap between institutional conditions, market dynamics and firm-level re-

sponses. Consolidation was therefore necessary to avoid fragmentation and to ensure that the thematic structure reflected the strategic logic emerging from the data.

Through axial coding and temporal comparison, the original eight themes were merged into four consolidated themes. These themes form the analytical backbone of the empirical results. The first theme, Chinese economic context, captures macroeconomic development, labour market dynamics and FDI inflows. The second theme, logistics in China, relates to market structure, competitive intensity, infrastructure development and outsourcing trends. The third theme, logistics MNEs in China, reflects licensing regimes, compliance requirements and institutional constraints that shape the strategic freedom of foreign firms. The fourth theme, success factors for logistics MNEs in China, integrates competitive advantages, strategic levers and applied strategies such as multimodal expansion, capability building and selective partnerships.

These four themes are interdependent and represent the strategic layers through which logistics MNEs interpret and navigate the Chinese market. Their consolidation aligns with the Tent Pole Strategy Framework and provides a coherent structure for analysing the interaction between ownership advantages, location determinants and internalisation capabilities.

Analytical robustness was ensured through systematic saturation checks. Inductive thematic saturation was reached when no new themes emerged in later interviews. A priori saturation was confirmed through full representation of the conceptual framework. Data saturation was evident in recurring patterns across all source types. Theoretical saturation was achieved when the consolidated themes fully supported the Tent Pole Strategy Framework.

The final thematic structure provides a clear and empirically grounded foundation for examining logistics MNE strategy in China. It integrates temporal dynamics, institutional complexity and firm-level strategic behaviour into a coherent analytical lens suitable for advancing research in international logistics and global strategy (see Figure 2).

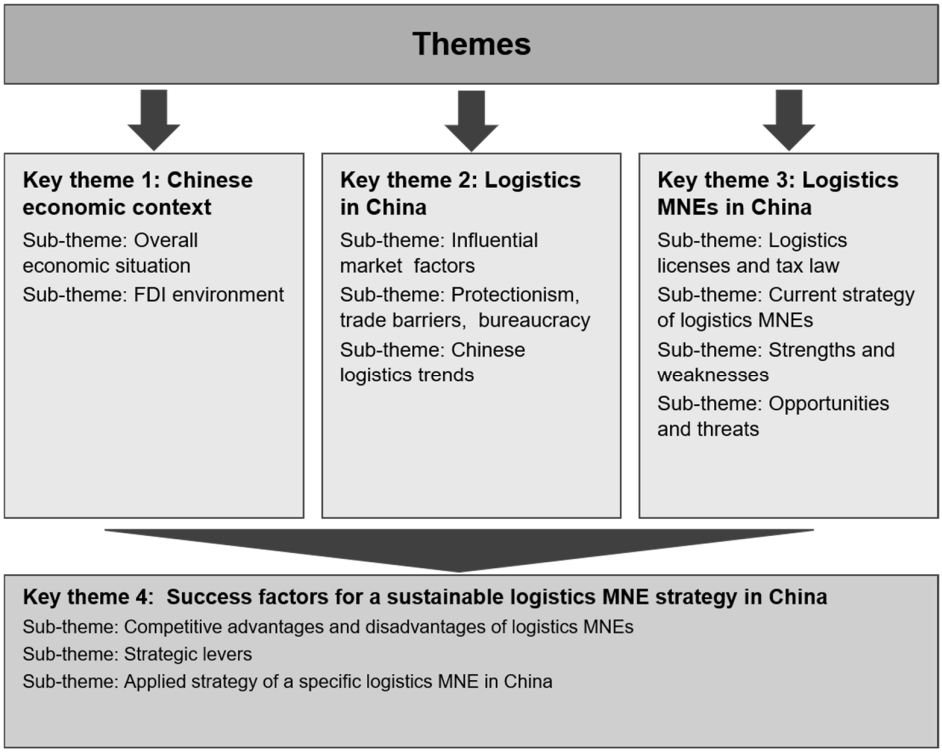

Figure 2. Emerging Themes and Sub-Themes.

After the themes had been consolidated, the findings were interpreted in relation to the research objective and their implications for sustained competitive performance and long-term strategic viability among logistics MNEs in China. Because the dataset spans nine years, particular attention was given to developments over time that appear to shape strategic behaviour.

The Tent Pole Strategy Framework was applied to examine how Dunning's [25] Eclectic Paradigm (OLI) and Peng's [51] Strategy Tripod together help explain logistics MNE strategy in China. The OLI determinants are discussed using the following acronyms:

- O—Ownership advantages that are further differentiated by:
  - Oa—Asset-specific driven advantages
  - Ot—Transactional advantages
  - Oi—Institutional assets
- L—Location advantages
- I—Internalisation advantages

The determinants relating to the Strategy Tripod [51] and their effects use abbreviations as follows:

- FRC—Firm-specific resources and capabilities
- IBC—Industry-based competition
- ICT—Institutional conditions and transitions

In the discussion that follows, positive and negative signs indicate whether a determinant functions as an advantage or a disadvantage. Each determinant is examined for its strategic relevance and for the extent to which the empirical material supports or challenges the underlying theoretical proposition. On that basis, the analysis identifies and evaluates the key success factors for logistics MNEs in China.

7. Discussion

This section synthesises the main findings and considers their implications for logistics strategy research. It shows how the empirical results extend understanding of post-entry adaptation, strategic differentiation, and capability development among logistics MNEs operating in China.

Based on the empirical evidence, five recurring strategic capabilities were observed across the cases examined. These capabilities do not represent universal determinants of success but rather recurring patterns associated with sustained market participation and competitive positioning among logistics MNEs operating in China. Their relevance emerged through repeated evidence from executive interviews, company publications, media sources, and expert interviews collected over an extended period.

Table 2 below summarises the findings for the supporting research questions and shows how the evidence addresses the study's research objective.

The literature also highlights the importance of broad market intelligence for logistics multinationals. This includes knowledge of customer demand, industrial supply chain requirements, and sector innovation [66]. New technologies such as robotics and autonomous vehicles are already entering logistics operations or are likely to do so more widely [67,68]. The service and product portfolio therefore emerges as one critical success factor, while the use of technology forms another.

Table 2. Condensed Findings by Supporting Research Questions.

Supporting Research Question	Condensed Finding
RQ1. How can the Tent Pole Strategy Framework be applied to analyse logistics MNE strategy in China?	The framework informs logistics MNE strategy by linking ownership, location, and internalisation advantages to firm capabilities, competition, and institutional conditions. In the Chinese market, strong brand assets, network scale, differentiated service portfolios, and internal coordination support performance, while regulatory constraints and shifting licensing conditions remain important limits.
RQ2. What major opportunities and threats influence the performance and competitiveness of logistics MNEs in China?	The main opportunities arise from continued market growth, infrastructure expansion, regional development, and increasing demand for outsourced and technology-enabled logistics services. The main threats include labour shortages, cost pressure, demanding customers, and institutional constraints such as licensing complexity and ownership restrictions.
RQ3. Which strategic factors support sustained competitive performance and long-term strategic viability for logistics MNEs in China?	Sustained competitive performance and long-term strategic viability are associated with adapting service portfolios to local demand, investing in customer-facing technology, strengthening organisational capability and workforce development, building a credible local footprint, and using partnerships or joint ventures selectively where they offer strategic value.

Source: Developed by the authors from the study dataset.

The human side of logistics is equally important [60,66]. How logistics MNEs structure their local organisations, and especially their management teams, also appears to matter. In the Chinese context, this raises the question of whether the local subsidiary is primarily expatriate-led or managed mainly by native executives.

Addressing skills shortages also emerges as a distinct success factor. As the Chinese logistics market becomes more sophisticated and digitally enabled, firms need employees who combine operational expertise with digital and coordination capabilities. Investment in talent development, workforce planning, and organisational capability therefore becomes increasingly important [60,66].

The local company presence is also critical for logistics MNEs in foreign markets [33,36]. In China, this presence includes the size of the employed workforce and the scale of firm-controlled vehicles, hubs, and sales outlets, summarised in this study as the local footprint. Table 3 compares the eight focal firms across the five empirically identified success factors. The subsequent capability-level evidence matrix consolidates these firm-level observations into five strategic capabilities that constitute the study's critical success factors and records the supporting firms, representative evidence, evidence strength, and principal limitation associated with each capability.

A separate capability-level evidence matrix complements the firm-by-factor comparison by showing, for each of the five strategic capabilities that constitute the study's critical success factors, the representative evidence, supporting firms, assessed evidence strength, and principal limitation. Evidence strength indicates the consistency of observations across cases and source types; it does not represent a statistical measure or establish causal relationships.

The findings suggest that sustainable competitive performance among logistics MNEs in China is driven not by individual strategic actions, but by the interaction of five strategic capabilities that constitute the study's critical success factors: strategic service portfolio adaptation, technology-enabled customer integration, organisational capability and talent development, institutional embeddedness and local footprint, and strategic governance and market penetration (see Tables 3 and A1). These capabilities activate different but

interdependent elements of the OLI framework: service adaptation, technology, and organisational development strengthen ownership advantages; institutional embeddedness and local footprint respond to location conditions; and strategic governance determines which activities are internalised and which are coordinated through selective partnerships. By integrating these relationships with Peng's Strategy Tripod, the Tent Pole Strategy Framework extends international business theory beyond market-entry decisions and provides a dynamic explanation of post-entry strategic adaptation and sustained performance among logistics MNEs operating in China.

Table 3. Cross-Case Comparison of Critical Success Factor Patterns.

Logistics MNE	Service Portfolio	Technology	Managerial Practice	Workforce Capability	Local Footprint
DHL	Express, forwarding, rail	Advanced warehousing and forecasting tools	Local Chinese leadership team	Strong investment in training and talent	Largest presence in China
UPS	International and domestic express, forwarding, supply chain	Limited firm-specific evidence	Mixed local and expatriate management	Limited firm-specific evidence	Second-largest presence
FedEx	Tailored logistics and supply-chain solutions	Limited firm-specific evidence	Mixed local and expatriate management	Limited firm-specific evidence	Third-largest presence
DB Schenker	Rail logistics specialist	Digital service prototyping	Limited firm-specific evidence	Limited firm-specific evidence	Smaller presence
Kuehne + Nagel	Sea, air, supply chain, rail	Planning and customer-facing tools	Limited firm-specific evidence	In-house training centres	Smaller presence
TNT	Express and Asia road freight	Enhanced shipping tools	Limited firm-specific evidence	Limited firm-specific evidence	Smaller presence
CEVA Logistics	Contract logistics and warehousing	Published emphasis on new technology	Limited firm-specific evidence	Limited firm-specific evidence	Smaller presence
Panalpina	Forwarding, supply chain, rail, intra-Asia road	Customer-facing technology investment	Limited firm-specific evidence	Limited firm-specific evidence	Smaller presence

Source: Developed by the authors from the study dataset.

In summary, these findings outline the conditions under which logistics MNEs are most likely to achieve sustained competitive performance and long-term strategic viability in China. The next section draws out the main conclusions and considers the study's key limitations.

8. Conclusions and Limitations

Drawing on 217 sources, this study examined how logistics MNEs operating in China shape strategy and pursue sustained competitive performance and long-term strategic viability under demanding and changing market conditions. The cross-case comparison highlights both shared patterns and firm-level differences in how these companies position themselves, invest in capability development, and respond to institutional and competitive pressures [18].

The cases differ notably in their service portfolios, technological investment and scale of market penetration. At the same time, the comparison makes it clear how leading logistics MNEs seek to differentiate themselves in a highly competitive environment and which factors appear to matter most for performance in China.

The five strategic capabilities identified in the analysis as critical success factors and evidenced across Tables 3 and A1 are strategic service portfolio adaptation, technology-enabled customer integration, organisational capability and talent development, institutional embeddedness and local footprint, and strategic governance and market penetration. Together, they explain how logistics MNEs differentiate themselves, penetrate the market, and respond to changing regulatory, technological, and operational conditions in China.

Overall, the findings suggest that logistics MNE strategy in China is shaped by the interaction of firm capabilities, market conditions, and institutional pressures. The study contributes to logistics research by showing that sustained competitive performance and long-term strategic viability depend not only on operational strength, but also on how firms adapt service portfolios, manage market-entry legacies, invest in technology, and develop organisational capability over time. In this sense, logistics strategy is a dynamic and context-sensitive process rather than a static response to market opportunity.

While the analysis identifies several broad competitive advantages shared by logistics MNEs in China, each firm still needs to develop a strategy that reflects its own resources, capabilities, and market orientation. For the companies examined, this points to continued investment in technology, employee development, organisational culture, collaboration, and corporate social responsibility. Corporate social responsibility is considered here as an area of firm-level investment and does not define sustainable strategy in this study.

Targeted sales and marketing activity may help strengthen brand position in China.

Ownership structure also remains strategically important. Joint ventures are now used selectively to access complementary domestic capabilities rather than only to satisfy regulatory requirements. DHL and UPS have both pursued partnerships with established Chinese logistics providers in the supply chain segment, presenting these arrangements as strategic choices. Their use therefore indicates that joint ventures can support market development when local capabilities provide clear strategic value (see Table A1: DHL–SF, M-150; UPS–SF, C-4).

The findings suggest that the dynamic logistics sector in China continues to adapt and change, and the market now clearly forms part of the strategic core for major international logistics MNEs. At the same time, the study has limitations that point to useful directions for future logistics research. These relate to the scope of the literature review, the methodological design, and the boundaries of the empirical material. The research applies a relatively focused definition of the logistics sector in China. Future research could widen that scope by using less restrictive inclusion criteria. One obvious extension would be to include the domestic mail and postal market. Given the broader restructuring of the postal, express, and logistics industries in China, these previously separate segments are becoming more closely connected and are likely to continue converging.

The empirical material is also bounded by the timeframe of the research and could be extended through additional media, company, and interview-based evidence. Future studies might also use other forms of qualitative data collection, such as focus groups. In this study, however, direct strategic discussion with competitors was constrained by company compliance rules and antitrust requirements.

Because the study focuses on eight logistics MNEs operating in the Chinese market, the findings are necessarily context-specific and not fully generalisable. They speak most directly to the firms examined, although they may also be informative for smaller international logistics companies active in China. A useful next step would be a direct comparison

between logistics MNEs and domestic Chinese providers. Comparative work across China and other mature or emerging logistics markets could also help clarify which strategic patterns are market-specific and which travel more broadly.

A further development that deserves closer attention is the growing use of artificial intelligence in logistics. AI-driven applications already offer new service opportunities, particularly in forecasting demand, improving inventory control, and supporting operational decisions across international supply chains. For logistics MNEs, these tools may strengthen responsiveness and coordination while also reshaping the basis of competitive advantage. The strategic use of AI therefore represents a promising field for future research, both in terms of practical application and in relation to its wider effects on business models, organisational capability, and market positioning.

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Appendix A. Evidence Trail and Coding Structure

Table A1 presents representative examples of the analytical progression from source-specific evidence to first-order codes, second-order themes, and the five strategic capabilities that constitute the study's critical success factors. The examples are illustrative rather than exhaustive and make the evidence trail auditable across documentary, interview, and media sources. The accompanying source information documents the complete identifier ranges for the 217-source dataset.

Table A1. Representative Evidence Supporting Strategic Capabilities.

Data Source	Evidence Reference	Illustrative Evidence	First-Order Code/ Second-Order Theme	Strategic Capability
DHL Annual Report (2017)	C-1	DHL-Sinotrans joint venture fully integrated into the DHL network	Partnership governance Governance alignment	Strategic Governance and Market Penetration
DHL Logistics Trend Radar (2018/2019)	C-17	Strategic use of digitalisation, forecasting and emerging logistics technologies	Technology investment Technology deployment	Technology-Enabled Customer Integration

Table A1. *Cont.*

Data Source	Evidence Reference	Illustrative Evidence	First-Order Code/ Second-Order Theme	Strategic Capability
Kuehne + Nagel China Brochure (2012)	C-18	Customer-specific logistics solutions and integrated service offerings	Service customisation Portfolio adaptation	Strategic Service Portfolio Adaptation
DB Schenker Annual Report (2017)	C-9	Expansion of consulting capabilities and China-focused logistics solutions	Capability development Organisational learning	Organisational Capability and Talent Development
DHL Televised Professional Interview	V-2	Information systems create customer insight and trade visibility	Digital customer integration Technology deployment	Technology-Enabled Customer Integration
Kuehne + Nagel Televised Professional Interview	V-29	Planning accuracy and digital transformation improve logistics performance	Digital transformation Technology deployment	Technology-Enabled Customer Integration
DB Schenker Televised Professional Interview	V-28	Development of warehousing algorithms and logistics prototypes	Innovation capability Technology deployment	Technology-Enabled Customer Integration
DHL Expert Interview	I-7	Cooperation with universities and development of future logistics talent	Talent development Organisational learning	Organisational Capability and Talent Development
DHL Expert Interview	I-11	Internal graduate development and structured logistics training programmes	Organisational learning Organisational learning	Organisational Capability and Talent Development
UPS China Media Report	M-34	Expansion into Chengdu driven by Go West strategy	Geographic market adaptation Institutional adaptation	Institutional Embeddedness and Local Footprint
Kuehne + Nagel Media Report	M-13	Network expansion into Western China	Local footprint expansion Institutional adaptation	Institutional Embeddedness and Local Footprint
DHL Rail Logistics Report	M-94	Expansion of multimodal rail services connecting China and Europe	Service diversification Portfolio adaptation	Strategic Service Portfolio Adaptation
DHL Supply Chain and SF Holding Media Report	M-150	Strategic partnership supporting future Chinese supply-chain growth	Joint venture governance Governance alignment	Strategic Governance and Market Penetration
UPS Annual Report (2017)	C-4	Joint venture with SF Express providing improved market access	Governance alignment Governance alignment	Strategic Governance and Market Penetration

Table Note: Evidence was derived from 35 televised professional interviews, 150 media reports, 20 company publications, and 12 semi-structured expert interviews collected over a nine-year study period within the 2010–2019 timeframe. Evidence references use the prefixes V for televised professional interviews, M for media reports, C for company publications, and I for expert interviews. First-order codes were developed from source-specific observations, grouped into second-order themes through iterative comparison, and consolidated into five consistently named strategic capabilities: Strategic Service Portfolio Adaptation, Technology-Enabled Customer Integration, Organisational Capability and Talent Development, Institutional Embeddedness and Local Footprint, and Strategic Governance and Market Penetration. Source: Developed by the authors from 12 expert interviews, 35 televised professional interviews, 150 media reports, and 20 company publications.

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