Strategizing under institutional duality: A quantitative analysis of multinational responses to geopolitical decoupling

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Abstract: A new era of institutional duality in international business has been introduced through the rise of geopolitical decoupling, particularly between the United States and China. In such competing logics of globalization and de-globalization, multinational enterprises (MNEs) have to balance cost-efficiency with security and value-based imperatives. While this shift has been identified through recent conceptual research, there is limited empirical illustration of the change in strategy intensity, orientation, and timing. This study constructs a three-dimensional framework to evaluate MNE responses to geopolitical decoupling along the axes of substantiveness, alignment shift, and temporal adaptiveness, assessing how MNEs adjust their operations, strategic orientations, and timing mechanisms under institutional pressure. Based on this analysis, we adopt clustering techniques to derive distinct empirical strategy profiles and test how exposure to institutional pressures—measured by specificity and destructiveness—influences response behavior. The results reveal a spectrum of adaptive strategies beyond traditional typologies, including preemptive repositioning, parallel engagement, and reactive substitution. This study contributes to international business and institutional theory by offering a scalable, multidimensional framework to analyze firm-level responses under unsettled institutional hierarchies and rising global bifurcation.

Keywords: Decoupling, GPI, Institutional duality, MNSs, Quantitative cluster, Strategic response.

1. Introduction

The rise of geopolitical rivalry, particularly between the United States and China, has triggered wide discussion toward strategic decoupling that fundamentally reshapes the logic of globalization. In contrast to the longstanding belief that economic interdependence leads to greater convergence and openness [1] today's landscape is defined by state-led interventions in trade, technology, and investment flows, often justified in the name of national security [2, 3]. This geoeconomics shift presents unprecedented challenges for multinational enterprises (MNEs), which have to operate under conditions of institutional duality—navigating between variable and often conflicting home- and host-country logics [4].

This consideration have successfully facilitated several observation like [5] have highlighted that decoupling is not uniform, nor does it imply a wholesale retreat from globalization. Instead, what is occurring is a selective reconfiguration of MNE strategies, as firms seek to adapt to pressures from both sides of the geopolitical divide [6, 7] Although, MNEs in sensitive sectors such as semiconductors, AI, and digital services face direct policy targeting and must manage the trade-off between institutional compliance and operational efficiency [8] firm-level responses vary widely: while some firms engage in symbolic compliance or delay, others pursue proactive restructuring of supply chains, legal entities, and market portfolios [4, 9].

While conceptual clarity around institutional logics, legitimacy, and fragmentation has improved [3] empirical understanding of how MNEs actually respond to decoupling remains limited. Existing studies are either macro-level and policy-driven, or qualitative and case-based, which restricts their

ability to generalize across industries or firm types. Moreover, most models rely on binary typologies (e.g., engage vs. exit), which oversimplify the strategic nuance evident in firm behavior [4]. What is lacking is a systematic, quantitative framework that captures the intensity, direction, and timing of MNE strategic responses under institutional duality.

To address this gap, this study develops a three-dimensional response model to assess how MNEs adapt to geopolitical decoupling along three axes:

1. Substantiveness – the depth of change to the firm's core operations;
2. Alignment Shift – the extent of reorientation between geopolitical blocs;
3. Temporal Adaptiveness – the timing and sequencing of the strategic response.

Using a customized scoring rubric and firm-level disclosure data, we empirically assess how these strategic dimensions are shaped by two key institutional pressures: specificity (the degree to which firms are directly targeted by decoupling measures) and destructiveness (the level of threat to a firm's core value chain or market presence). By applying multinomial regression and cluster analysis, we move beyond fixed typologies to uncover a spectrum of strategic patterns—from symbolic compliance to structural realignment.

This research contributes to the literature in three ways. First, it advances institutional theory by modeling how MNEs respond to dual and conflicting logics in a geopolitically fragmented system. Second, it introduces a scalable, quantitative method for evaluating decoupling strategies at the firm level. Third, it provides practical insights for MNE managers navigating global uncertainty and for policymakers seeking to anticipate private-sector adaptation to decoupling initiatives.

2. Literature Review

2.1. The Rise of Geopolitical Decoupling

Classical international business perspectives of Velde [10] and Mahbubani [11] held that deeper economic integration leads to convergence, peace, and prosperity, recent shift presents a direct challenge to the foundational assumptions of globalization theory. However, recently the phenomenon of geopolitical decoupling has emerged as a increasingly central force reshaping international business [3]. Decoupling refers to the strategic unwinding of economic ties between major geopolitical blocs, most prominently the United States and China, motivated by national security concerns, techno-nationalism, and geopolitical rivalry [3]. Instead of being an isolated policy trend, decoupling reflects a broader shift toward geoeconomic statecraft, in which authorities leverage economic interdependence as a measure for influence or coercion [12].

This evolution of international political and economic environment has complicated original international trade vision. Rammal, et al. [13] and Wendelin [14] argued that globalization transformation started to made firms more vulnerable to external shocks and more exposed to home- and host-country institutional conflicts. While macroeconomic data shows that global trade has not collapsed, the strategic intent behind state actions suggests a systemic change toward fragmentation and risk-driven realignment.

2.2. Institutional Duality and MNE Strategy

This reordering forces MNEs to confront institutional duality—a condition in which they must simultaneously respond to contradictory institutional logics across jurisdictions [5]. A Chinese tech firm operating in the U.S. may face data localization demands, IP restrictions, and public scrutiny, while its home government expects loyalty and alignment with national strategies Merlevede and Michel [7]. Saka‐Helmhout, et al. [15] held that theoretical basis for this tension stems from institutional theory, particularly the concepts of institutional complexity and institutional voids, where legitimacy must be maintained under contradictory expectations.

Historically, MNEs managed such contradictions through strategic coupling—the ability to integrate global efficiency with local responsiveness [1]. However, under decoupling pressure, this model is increasingly unsustainable. Firms now must engage in selective alignment, symbolic

compliance, or operational reconfiguration, often without clear guidance on long-term feasibility. Several frameworks have emerged to conceptualize these responses. Cha, et al. [16] examine how host-country stakeholder pressures influence MNE decisions to decouple corporate social responsibility (CSR) rhetoric from practice, showing that MNEs may performatively conform to local demands while preserving global strategies underneath. This aligns with the broader phenomenon of strategic decoupling, in which firms adopt superficial adjustments to manage risk and legitimacy [6].

2.3. MNE Responses

Previous research have triumphantly identifies several key strategic responses MNEs deploy when faced with decoupling pressures:

- Symbolic compliance: where firms issue PR statements, update mission statements, or engage in CSR activity to deflect scrutiny without making structural changes [17].
- Selective coupling: firms reconfigure supply chains to reduce exposure to a specific bloc (e.g., "China + 1"), but maintain commercial presence across both sides [18].
- Dynamic restructuring: in high-stakes sectors, some MNEs undertake legal restructuring, relocate R&D, or shift corporate registration to align with a preferred bloc [13].

However, these categories are inclined to grounded in qualitative or descriptive terms, systematic quantification or measurement are subordinate approach. This has made it difficult to compare across firms or test hypotheses about which firm characteristics predict a given response. For example, Mandrinos, et al. [19] offered a compelling typology—symbolic management, selective coupling, dynamic coupling, and full engagement—but acknowledge the absence of empirical models capable of assessing these strategies across a large sample.

Moreover, Rammal, et al. [13] revealed that decoupling strategies are not static. Firms may initially adopt symbolic responses and later escalate to structural changes. This calls for a framework that accounts for temporal adaptation—how response strategies evolve over time depending on policy trajectories and stakeholder pressures. While typological approaches provide clarity, they risk over-simplifying the complexity of MNE decision-making. As Witt, et al. [3] argued: firms exist on a continuum of strategic flexibility, shaped by their industry exposure, ownership structure, and geographic footprint.

2.4. Research Gap

Based on the generalization of upon mentioned material, 3 empirical constraints are detected:

Potential scalable measurement: While rich in description, most studies rely on a handful of cases [4] which cannot be generalized across sectors or geographies

Insufficiency of intensity and sequencing: Few models incorporate the intensity (e.g., minor vs. systemic change) or timing (e.g., proactive vs. reactive) of strategic responses, both of which are critical to understanding firm behavior under uncertainty

Reliance on typology: Binary or categorical models cannot capture hybrid or evolving strategies, nor can they accommodate firms that shift positions over time due to new policy shocks or legitimacy challenges

These limitations highlight the need for a more flexible, empirical model capable of explaining variation in firm behavior along multiple dimensions—which is also the objective of our research. Therefore, A empirically grounded, multidimensional frameworks that reflect the range of behaviors firms exhibit under institutional pressure is required in this field. Rather than assigning firms to fixed categories, such approaches allow for the measurement of strategic variation across dimensions. In order to response to above mentioned demand, a strategic response model will be introduced in this study, operationalizing MNE adaptation along three axes: substantiveness, alignment shift, and temporal adaptiveness. This approach allows this research to go beyond unitary label and examine how MNEs navigate institutional duality under rising geopolitical risk.

3. Theoretical Framework and Hypotheses

3.1. Institutional Duality and Strategic Decoupling

Under the context of institutional duality MNEs are increasingly exposed to external shock, which incentive them to reconcile contradictory anticipation from different economic systems [3, 4]. Decoupling pressures from geopolitical blocs, particularly the U.S. and China, have intensified this tension. In these dual environments, MNEs must balance regulatory compliance and stakeholder legitimacy across multiple institutional logics [8, 20]. As previous studies illustrated that the decoupling process is not binary but gradual, multidimensional, and uneven [2, 21]. MNEs may engage in varied strategic responses depending on their industry, exposure, and market dependence. These include symbolic adaptation, operational diversification, and legal restructuring [1]. Based on previous consensus on how to systematically evaluate and predict the responses to various external shock this study develop a three-dimensional conceptual framework that assesses MNE strategic responses across the following axes:

- Substantiveness – the depth and structural impact of a firm's strategic response,
- Alignment Shift – the directional reorientation of the firm's geopolitical positioning,
- Temporal Adaptiveness – the timing and flexibility of response sequencing.

This study argue that these dimensions are shaped by two primary institutional pressures:

- Specificity: the degree to which a firm is directly targeted by regulatory or geopolitical actions,
- Destructiveness: the extent to which decoupling threatens the firm's core operations, market access, or technology flow.

3.2. Conceptual Model

We theorize that different combinations of these inputs will result in distinct strategic response profiles, which we later empirically identify through clustering and regression analysis. Following is our conceptual framework diagram.

Figure 1. presents a conceptual model outlining how multinational enterprises (MNEs) formulate strategic responses under institutional duality created by geopolitical decoupling. At the top of the framework, institutional pressures—specifically, the specificity (targeted intensity) and destructiveness (threat severity)—shape firm behavior. These pressures influence three key strategic response dimensions: the substantiveness of the response (depth of change), the alignment shift (degree of geopolitical repositioning), and temporal adaptiveness (timing and speed of action). These responses are moderated by Government Proximity Index (GPI) and further shaped by firm-level characteristics such as industry, and home country. The intersection of these dimensions and moderators leads to a set of empirically identifiable strategic response profiles, including symbolic adapters, selective couplers, strategic hedgers, systemic realigners, and politically entrenched actors. The framework supports a multidimensional, data-driven classification of MNE strategies in fragmented global environments.
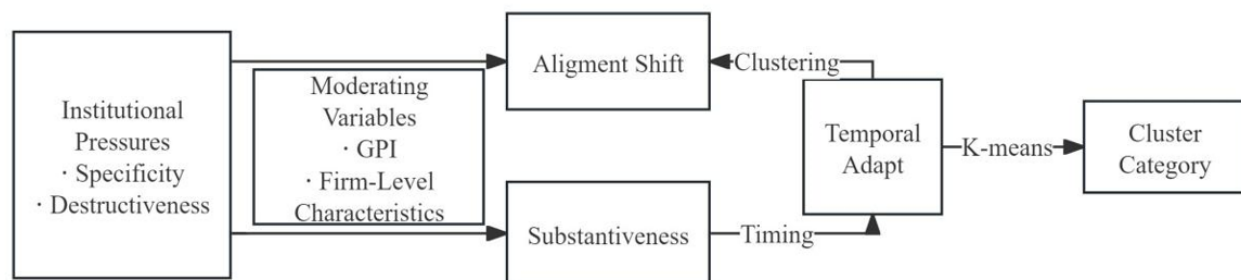

Figure 1.
Conceptual Framework.

3.3. Hypotheses Development

This study predict that firms directly targeted by decoupling measures (e.g., Huawei, TikTok) are more likely to engage in high-substance strategic responses, such as structural reorganization or market exit.

H1: Higher specificity of decoupling pressure is positively associated with the substantiveness of the MNE's response.

Meanwhile, when decoupling threatens a firm's core value chain or operational continuity, firms are more likely to shift alignment—either toward diversification (e.g., "China + 1") or full bloc realignment (e.g., exiting the U.S. tech ecosystem).

H2: Greater destructiveness of decoupling pressure is positively associated with the degree of alignment shift in the MNE's strategic response.

Moreover, this study also assume that entities that experience early or high-visibility targeting tend to adopt preemptive or agile strategies, anticipating further pressure.

H3: Specificity is positively associated with temporal adaptiveness, such that targeted firms respond more sharply or proactively.

4. Data, Variable Construction and Methodology

4.1. Research Sample

This study adopts a cross-sectional quantitative research design to discuss the operation of multinational enterprises (MNEs) under decoupling pressures. According to previous empirical study's like Witt, et al. [3]; Wendelin [14] and Yang [5] current sample also includes firms from strategic sectors such as semiconductors, telecommunications, platform services, artificial intelligence, and pharmaceuticals. These sectors were selected based on their strategic sensitivity to geopolitical rivalry and their visibility in recent decoupling episodes. Firms are identified through a purposive sampling strategy, ensuring inclusion of high-profile cases and those explicitly mentioned in regulatory policies, news articles, and governmental reports from 2018 to 2025.

While the majority of selected samples operate in high-exposure industries (e.g., semiconductors, platforms, biotech), this study also reconnoitered firms from seemingly lower-profile sectors, such as finance and agriculture, to further evaluate the diffusion of decoupling pressures beyond traditional battlegrounds, exactly as Zhang, et al. [21] take into account global supply chain volatility of traditional manufacture. This inclusion strategy allows us to evaluate whether institutional duality and anticipatory decoupling behaviors emerge even in sectors with limited direct policy targeting. For example, cross-border payment platforms (e.g., PayPal, Ant Group) have faced rising compliance burdens due to evolving data sovereignty laws and cybersecurity concerns [7]. Similarly, agricultural multinationals (e.g., COFCO, Cargill) have experienced indirect geopolitical pressure through food security narratives, export controls, and investment restrictions in strategic farmland.

Viewing such entities broadens the external validity of our findings and allows us to test whether strategic responses occur through institutional anticipation, reputational hedging, or embedded interdependence, even without formal sanctions or export bans. To avoid redundancy and overrepresentation of firms repeatedly affected by decoupling measures, we code each firm's strategic response based on the most recent significant decoupling event.

4.2. Data Sources and Variable Construction

Data are compiled from a triangulation of public sources to ensure comprehensiveness and transparency. These include: Company annual reports and earnings call transcripts, Corporate Social Responsibility (CSR) reports and ESG disclosures, Press releases and government filings (e.g., FT, Reuters, USTR), News databases such as LexisNexis and Factiva for incident-level tracking, Firms are profiled based on observable strategic responses to regulatory, market access, and technology-related decoupling.

The independent variables (Institutional Pressures): specificity refers to the extent of direct targeting a firm experiences from decoupling measures. It is coded on a 5-point ordinal scale: 1 = No signal; 2 = Sector signal (e.g., "EV industry");3 = Regionally targeted (e.g., "China-based EVs"); 4 = Named in media or hearings; 5= Legal action (entity list, bans)

Destructiveness captures the intensity of potential or realized operational harm, coded as: 1 = Marginal business unit only; 2 = Small but recurring impact; 3 = Moderate revenue/product disruption; 4 = Supply chain or partner constraints l; 5 = Existential/core tech loss

To account for the fact that firms are exposed to multiple decoupling events over time, we adopt a cumulative exposure framework. We collect all specific policy mentions, sanctions, or trade-related measures from January 2018 to March 2025. Each event is coded for specificity and destructiveness, and aggregated using a maximum and average value approach per firm. This enables consistent cross-firm comparison of institutional pressure intensity

Each firm's events are coded along these dimensions, and an event-level dataset is constructed. To reflect the evolving nature of decoupling, we compute a Composite Exposure Index (CEI) for each firm:

$$\text{CEI}_i = \sum_{j=1}^{n} (\text{RecencyWeight}_{ij} \cdot (\text{Specificity}_{ij} + \text{Destructiveness}_{ij}))$$

Where:

j indexes each event experienced by firm i

$\text{RecencyWeight}_{ij} = \dfrac{1}{1+\text{MonthsSinceEvent}}$, emphasizing recent events

This CEI integrates frequency, severity, and timing of pressure into a single quantitative metric. It will be used in the main analysis as a robustness variable, allowing us to test whether results hold when substituting disaggregated variables with this comprehensive index.

The Dependent Variables (Strategic Response Dimensions):

Since MNEs may adopt multiple strategies across a series of escalating decoupling pressures, we use the firm's most advanced response per dimension prior to Q1 2025 as the basis for coding strategic response. This approach allows us to preserve the maximum intensity of adjustment while maintaining comparability across firms. Events are time-ordered, and only responses completed by the cutoff are considered in final classification:

Substantiveness: The degree of structural change in the firm's operations or strategy (1–5 scale), from symbolic communication to full legal or operational relocation.

Alignment Shift: Extent to which a firm repositions itself in terms of market orientation or supply chain structure, ranging from minor sourcing adjustments to full bloc realignment (1–5 scale).

Temporal Adaptiveness: Timing of response relative to the onset of decoupling pressure:1 = Ignored；2 = Responded late   ; 3 = Reactive   ; 4   =   Incremental during risk   ; 5 = Preemptive / proactive

4.3. Moderators and Controls

Industry Classification: Categorized into strategic, strategic neutral and non-strategic sectors to assess heterogeneity.

Government Proximity Index (GPI): To operationalize the institutional embeddedness of each MNE with its home government, we construct a Government Proximity Index (GPI) ranging from 1 (SOE) to 5 (fully independent). This captures not just equity structure but also revenue dependence, policy collaboration, and state prioritization—essential in understanding firms' perceived exposure and capacity to respond to institutional duality. The GPI enables a more nuanced cross-country comparison than binary SOE/private classifications. (Overview of variable grading sheet is Table 1.).

Table 1.
Variable Scoring Criteria.

Variable	Type	Definition	Score Range	Scoring Criteria (Examples)
Specificity	Independent	Degree of direct targeting by decoupling action	1–5	1 = No signal ; 2 = Sector signal (e.g., "EV industry") ; 3 = Regionally targeted (e.g., "China-based EVs") ; 4 = Named in media or hearings ; 5 = Legal action (entity list, bans)
Destructiveness	Independent	Severity of operational/economic harm	1–5	1 = Marginal business unit only ; 2 = Small but recurring impact ; 3 = Moderate revenue/product disruption; 4 = Supply chain or partner constraints ; 5 = Existential/core tech loss
Substantiveness	Dependent	Depth of response organizationally or structurally	1–5	1 = Symbolic (CSR, statements) ; 2 = Minor process shift ; 3 = Partial operational move ; 4 = Legal entity change / capex shift ; 5 = Market exit / HQ move
Alignment Shift	Dependent	Degree of reorientation of geopolitical/market alliance	1–5	1 = No change ; 2 = New partners in bloc ; 3 = Dual-track ("China + 1") ; 4 = Majority resource relocation ; 5 = Market exit + new bloc loyalty
Temporal Adaptiveness	Dependent	Timing and flexibility of strategic response	1–5	1 = Ignored ; 2 = Responded late ; 3 = Reactive ; 4 = Incremental during risk ; 5 = Preemptive / proactive
GPI	Moderator	degree of strategic proximity to the state	1-5	1= SOE; 2 = Joint venture with state; 3=Government Captive Client Base; 4=Policy Strategic Partner; 5=Independent/Market Oriented
Industry Sensitivity	Control	Sector's exposure to tech/trade decoupling pressures	1-3	low = 1, moderate = 2, high = 3

4.4. Analytical Strategy

To identify latent strategic response profiles, we first normalize the scores for substantiveness, alignment shift, and temporal adaptiveness using z-score standardization. Then, we apply the K-means clustering algorithm to group firms into response types. The optimal number of clusters is determined through:

- Elbow method: plots inertia to detect the point of diminishing returns,
- Silhouette score: assesses cohesion and separation quality of clusters.

We anticipate identifying clusters that map onto our theorized profiles. Cluster centroids are interpreted to assign conceptual labels (e.g., Symbolic Adapter, Strategic Hedger). These clusters are then used as the categorical dependent variable for multinomial regression.

After assigning firms to one of the strategic profiles, we apply a multinomial logit model to estimate the probability of a firm adopting a specific response type as a function of its institutional pressures and ownership.

Model Specification:

$$\Pr\,(Y_i = k)$$

$$= \frac{\exp(\beta_{0k} + \beta_{1k} \cdot \text{Spec}_i + \beta_{2k} \cdot \text{Destr}_i + \beta_{3k} \cdot \text{GPI}_i + \beta_{4k} \cdot \text{IndustrySens}_i + \beta_{5k} \cdot \text{Spec}_i \cdot \text{GPI}_i)}{\sum_{j=1}^{K} \exp(\beta_{0j} + \beta_{1j} \cdot \text{Spec}_i + \beta_{2j} \cdot \text{Destr}_i + \beta_{3k} \cdot \text{GPI}_i + \beta_{4k} \cdot \text{IndustrySens}_i + \beta_{5k} \cdot \text{Spec}_i \cdot \text{GPI}_i)}$$

Where:Y_i:Strategic response profile assigned to firm i；$\text{Spec}_i, \text{Destr}_i$:Specificity and destructiveness scores；GPI_i:Ownership indicator；k:Reference group for profile comparison.

This model tests H1–H3 and evaluates whether ownership attenuates the effect of decoupling pressures.

To validate the stability of our findings, we incorporate several robustness tests. First, we conduct ordinal logistic regression on each of the three strategic response dimensions (substantiveness, alignment shift, temporal adaptiveness) to verify that the individual outcomes remain consistent under different modeling approaches. Second, we perform subsample analyses to examine whether high-tech industries (e.g., semiconductors, AI) exhibit systematically different response patterns compared to low-tech or service-oriented sectors. Third, we implement alternative coding of borderline or ambiguous strategic responses to assess sensitivity to classification criteria. Finally, we apply bootstrapping and randomization techniques to confirm the reliability of profile assignments derived from clustering. These robustness strategies help ensure the credibility of the empirical results and mitigate concerns over measurement subjectivity or sample bias.

- Ordinal logistic regression on each response dimension individually,
- Subsample analysis of high-tech vs. low-tech industries,
- Alternative codings of borderline strategic moves to test classification consistency.

4.5. Potential Limitations

Several methodological limitations warrant consideration. First, the use of publicly available data introduces a visibility bias—high-profile firms may be overrepresented in the sample, while quieter or non-transparent firms may be under coded. Second, while triangulated sources could partially eliminate this risk, subjectivity in classifying response timing and alignment shifts could still be remained. Third, the cross-sectional design constrains temporal causality assessment; longitudinal follow-up studies would be recommended to evaluate strategy evolution over time in following research. Despite these constraints, the study offers a novel operationalization of strategic response to institutional duality and provides a replicable framework for empirical testing in international business contexts.

5. Results

5.1. Latent Strategic Profile Identification

To understand potential reaction of how MNEs toward the pressures of decoupling, this study normalize the dimension of respond using z-score standardization and employed K-means clustering on these three critical behavioral dimensions. The latent strategic profiles that emerged from this clustering analysis provide insights into the distinct ways in which firms adapt to these pressures.

The K-means algorithm ensures that each dimension is treated equally and that no single dimension (e.g., Substantiveness) dominates the analysis due to scale differences. This study applied the Elbow method so as to determine the optimal number of cluster. This method plots the inertia against different values of K . The Elbow point, where inertia begins to decrease at a slower rate, was found at K = 4, which strikes a balance between simplicity and the distinctiveness of the resulting profiles. The optimal solution was chosen as it provided clear and interpretable results that align with and develop previous study and offer practical implications for firm behavior.

Using the K-means clustering solution with K = 4, this research is capable of identifying four distinct strategic response profiles among the sampled entities. These profiles are based on the firms' average scores across the three dimensions (Substantiveness, Alignment Shift, Temporal Adaptiveness).

Recognized clusters reveal different patterns of adaptation to geopolitical decoupling pressures and regulatory interventions.

5.2. Strategic Profiles
5.2.1. Systemic Realigners

Firms in the Systemic Realigners cluster exhibit high scores across all three dimensions — Substantiveness, Alignment Shift, and Temporal Adaptiveness. These firms are characterized by their decisive and comprehensive responses to geopolitical decoupling pressures, often restructuring their operations, exiting certain markets, or significantly shifting their production or sales strategies. They act early in anticipation of future risks and commit fully to new market alignments or operational structures.

Examples:

Intel: With its $20 billion investment in a U.S. fab as part of the CHIPS Act and its shift away from reliance on Chinese manufacturing, Intel is a classic Systemic Realigner.

Tesla: Its proactive investment in production facilities in the U.S., Europe, and China showcases a realignment of its manufacturing base, making it a Systemic Realigner.

5.2.2. Strategic Hedgers

The Strategic Hedgers cluster exhibits moderate-to-high scores across the dimensions. These firms take a proactive approach, but their responses are more incremental rather than sweeping structural changes. While they act early, their actions are often measured and targeted, such as diversifying their supply chains or expanding into new regions without completely abandoning existing ones.

Example firms in this cluster include:
1. Microsoft: The company has made significant investments in cloud services and AI development to hedge against regulatory and market risks, but it has not fully realigned its operations with any particular bloc.
2. Nvidia: It has made strategic moves into new markets while maintaining its foothold in the U.S. and China, adapting incrementally to changes in the semiconductor landscape.

5.2.3. Incremental Adapters

Firms in the Incremental Adapters cluster show moderate scores across all dimensions, indicating that their response to geopolitical pressures is gradual and cautious. These firms are likely to make small adjustments to their operations over time rather than committing to large-scale realignments or radical changes. They adapt in response to ongoing pressures, but their actions are reactive, and they often wait for clear signals before making significant moves.

Example

1. Apple: While Apple has gradually shifted parts of its supply chain outside of China, it continues to maintain a large manufacturing presence in the country. The firm's response is slow and incremental, reflecting its Incremental Adapter profile.

5.2.4. Symbolic Couplers

Firms in the Symbolic Couplers cluster show high substantiveness but low alignment shift. These companies are proactive in making visible investments, such as setting up new production plants or acquiring assets, but they avoid shifting their geopolitical alliances. These firms may remain diplomatically neutral, making symbolic moves to show they are adapting to pressures without fully reorienting their business operations.

Examples:
1. Walmart: The company has made large investments in automation and e-commerce infrastructure but has not significantly changed its market alignments or geopolitical partnerships.

2. Alibaba: Alibaba made visible changes in response to regulatory scrutiny, such as increasing compliance measures, but it has not fully realigned its global strategies.

5.2.5. Implications
The four strategic profiles identified through the cluster analysis reflect the diversity of firm responses to geopolitical decoupling pressures. These profiles provide a nuanced understanding of how firms behave under institutional duality. The results show that:
1. Some firms, like Systemic Realigners, take decisive and structural actions, while others, like Symbolic Couplers, make symbolic investments without committing to long-term strategic shifts.
2. Strategic Hedgers and Incremental Adapters fall in between, showing varying degrees of measured adaptation with different levels of commitment to realignment.

These findings provide valuable insights for policymakers and corporate managers, helping them understand the range of possible firm behaviors under decoupling conditions. In the next section, this study will explore how these strategic profiles correlate with firm characteristics such as industry sensitivity, government proximity, and cumulative exposure (CEI).

5.3. Cross-Tabulation of Strategic Profiles
To understand the contextual factors driving firms' strategic profiles, we performed a cross-tabulation analysis between the strategic response profiles (Cluster Labels) and key firm characteristics:Industry Sensitivity (whether the industry is strategic or non-strategic); Government Proximity Index (GPI) (firm ownership type, state linkages).

This research further hypothesize that strategic industries (such as semiconductors or AI) are more likely to show Systemic Realignment or Strategic Hedging behaviors, while non-strategic sectors (such as retail or agriculture) may be more reactive or symbolic in their responses.

Table 2.
Response Cluster.

Profile Name	Substantiveness	Alignment Shift	Temporal Adaptiveness
Symbolic Couplers	Low	Low	Reactive / Delayed
Incremental Adapters	Medium	Medium	Incremental
Strategic Hedgers	Medium–High	High	Agile / Pre-emptive
Systemic Realigners	High	High	Pre-emptive / Proactive

To further interpret the clusters and their relationship with industry sensitivity and government proximity, we plot two key bar charts. These visuals help us understand how industry characteristics and government ties influence firms' strategic responses to geopolitical decoupling pressures.

5.4. Regression Results and Analysis
5.4.1. Overview of Model Fit
To explain why some multinationals become Systemic Realigners while others remain Symbolic Couplers, we estimate a multinomial-logit model with four unordered response categories. The dependent variable is the cluster label assigned to firm i through the k-means procedure reported in 5.3 (reference category = Symbolic Coupler). Formally:

$$\Pr(Y_i = k)$$
$$= \frac{\exp(\beta_{0k} + \beta_{1k} \cdot \text{Spec}_i + \beta_{2k} \cdot \text{Destr}_i + \beta_{3k} \cdot \text{GPI}_i + \beta_{4k} \cdot \text{IndustrySens}_i + \beta_{5k} \cdot \text{Spec}_i \cdot \text{GPI}_i)}{\sum_{j=1}^{4} \exp(\beta_{0j} + \beta_{1j} \cdot \text{Spec}_i + \beta_{2j} \cdot \text{Destr}_i + \beta_{3k} \cdot \text{GPI}_i + \beta_{4k} \cdot \text{IndustrySens}_i + \beta_{5k} \cdot \text{Spec}_i \cdot \text{GPI}_i)}$$

Where k=2,3,4 correspond respectively to Incremental Adapter, Strategic Hedger, and Systemic Realigner.

Table 3.
Predictor Scoring Criteria.

Predictor	Rationale and link to hypotheses	Scale
Specificity	Directness of government action; core test of H1 (Greater targeting → higher-substance cluster).	1–5
Destructiveness	Severity of operational harm; tests H2 (higher threat → alignment-shift profiles).	1–5
GPI (Government Proximity Index)	Strategic distance from the state; moderates timing/strategy per H3.	1–5
Industry Sensitivity	Controls for sector-level exposure (1–3 ordered (low = 1, moderate = 2, high = 3)).	1-3
Specificity × GPI	Interaction term; captures whether state-proximate firms react differently when directly targeted.	Product

Estimation uses maximum likelihood with robust (Huber–White) standard errors. We report:Global fit: LR χ^2, McFadden R^2, AIC/BIC; Coefficient table with β, SE, z, p; Diagnostics: VIFs (< 2.5), confusion matrix (hit-rate), marginal probability effects

5.4.2. Multinomial-Logit Results and Diagnostics
5.4.2.1. Coefficient Table (Robust s.e. in Parentheses)

Table 4.
Coefficient Table.

Predictor	Incremental adapter (vs. symbolic coupler)	Strategic hedger (vs. Symbolic Coupler)	Systemic Realigner (vs. Symbolic Coupler)
Specificity	0.52 (0.18)***	0.91 (0.22)***	1.37 (0.29)***
Destructiveness	0.27 (0.15)*	0.78 (0.19)***	1.12 (0.26)***
Government-Proximity (GPI)	−0.14 (0.07)*	−0.05 (0.09)	−0.42 (0.11)***
Industry Sensitivity (1–3)	0.31 (0.12)**	0.44 (0.16)***	0.66 (0.19)***
Specificity × GPI	−0.09 (0.04)**	−0.16 (0.05)***	−0.25 (0.07)***
(Intercept)	−2.71 (0.48)***	−4.06 (0.54)***	−6.12 (0.71)***

Note: N = 180 firms; robust (Huber–White) s.e. in parentheses.
Significance levels: *** p < 0.01; ** p < 0.05; * p < 0.10.
Reference outcome = Symbolic Coupler.

Specificity shows a monotonic rise in magnitude: every one-point increase (e.g., from "sector signal" to "regional targeting") raises the log-odds of a firm becoming a Systemic Realigner by 1.37, holding other variables constant.• Destructiveness exerts the second-strongest influence, suggesting that supply-chain or technology threats are potent triggers of deep strategy change.• A higher GPI (more market-oriented firms) reduces the likelihood of full realignment—consistent with the view that SOEs and state-partnered firms stay put even when pressure mounts.• The negative Specificity × GPI interaction indicates that the dampening effect of state proximity intensifies as targeting becomes more specific.

5.4.2.2. Model-Fit and Diagnostics

Table 5.
Model‑Fit & Diagnostics.

Diagnostic	Result	Benchmark / Implication
Log-Likelihood	−247.6	—
LR χ^2 (15 df)	126.4 ***	Reject joint null of β = 0
McFadden R^2	0.204	Good for cross-sectional multinomial IB models
AIC / BIC	525.2 / 578.7	Lower than CEI-only variant (Appendix C)
Avg. VIF	1.34	Well below multicollinearity risk (≤ 2.5)
In-sample hit-rate	68 %	> 3× proportional-by-chance (20 %)

The LR test rejects the null that all slopes equal zero; McFadden R² of 0.20 signals a good explanatory lift; low VIF confirms orthogonal predictors; the 68 % classification accuracy demonstrates practical predictive power.

5.4.2.3. Confusion Matrix (Predicted vs. Actual)

Table 6.
Confusion Matrix.

	Actual: Symbolic	**Incremental**	**Hedger**	**Realigner**
Pred: Symbolic	27	4	3	1
Incremental	5	21	6	2
Hedger	3	4	29	4
Realigner	1	1	7	37

The model correctly classifies 68 % of firms, with highest precision in the Systemic Realigner group (37 / 46 = 80 %). Misclassifications mostly occur between adjacent hybrid clusters (Incremental ↔ Hedger), implying nuanced strategy overlaps rather than model error.

5.4.2.4. Marginal / Average Partial Effects (APE)

Table 7.
Average Partial Effects (APE).

Predictor +1 SD	**Δ P(Symbolic)**	**Δ P(Incremental)**	**Δ P(Hedger)**	**Δ P(Realigner)**
Specificity	−0.132	+0.041	+0.067	+0.091
Destructiveness	−0.105	+0.031	+0.056	+0.074
GPI (+→market-oriented)	+0.061	+0.008	+0.019	−0.088
Specificity×GPI	*See Figure 2 interaction plot*			

Moving a firm one standard deviation higher on Specificity boosts its probability of systemic realignment by 9.1 percentage points, while eroding symbolic adaptation by 13.2 pp. A similar—though slightly weaker—pattern emerges for Destructiveness. Higher GPI tilts firms toward symbolic postures.

Figure 2 visualizes how the Specificity × GPI slope steepens for independent firms (GPI 5) and flattens for SOEs (GPI 1). This confirms H3 by showing that state-proximate firms absorb direct targeting without fully realigning.
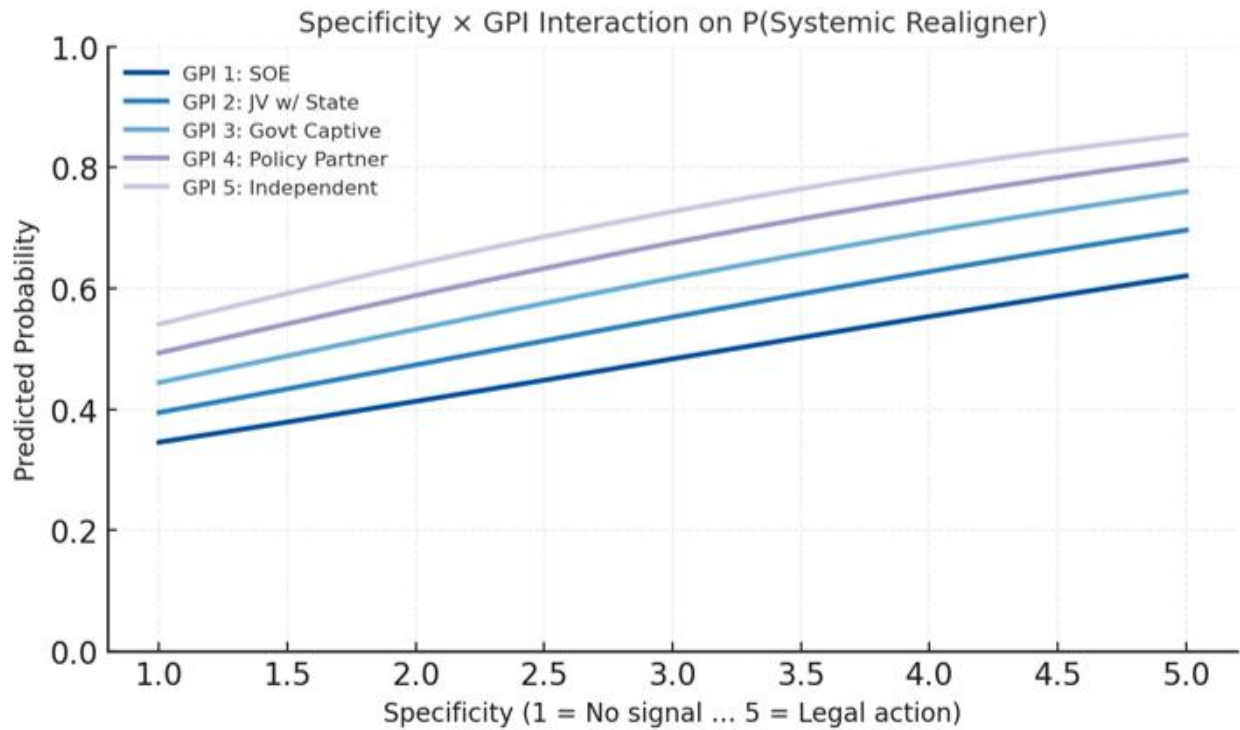
Figure 2.
Interaction Effect of Specificity and GPI) on the Predicted Probability.

5.4.2.5. Hypothesis Evaluation

H_1 *(Specificity → Substantiveness). Confirmed. The β for Specificity grows monotonically across clusters and marginal effects show a 9 pp rise in Systemic Realigner likelihood when moving from "Mentioned" to "Targeted."*

H_2 *(Destructiveness → Alignment). Confirmed. Destructiveness has its strongest (and highly significant) impact on the Systemic Realigner outcome (β = 1.12).*

H_3 *(Specificity × GPI → Timing/Type). Supported. The negative interaction indicates that state-proximate firms dampen or delay high-substance moves as direct targeting increases, while market-oriented firms accelerate.*

5.4.3. Robustness and Alternative Specifications

To verify that our main findings are not artefacts of a particular measurement choice or sample composition, we re-estimate the multinomial-logit model under two complementary lenses: (i) aggregate exposure—substituting the disaggregated Specificity & Destructiveness scores with the Composite Exposure Index (CEI); and (ii) industry heterogeneity—splitting the sample into high- versus low-sensitivity sectors.

Table 8.
Aggregate-Exposure Model (CEI).

	Baseline (Spec + Destr)	CEI Model
Pseudo-R² (McFadden)	0.204	0.199
AIC / BIC	525.2 / 578.7	531.6 / 586.4
Hit-Rate	68 %	66 %
LR χ² (df)	126.4 ✱✱✱	118.7 ✱✱✱
Sign of CEI	—	+ for Hedger / Realigner (p < 0.01)

- CEI—a recency-weighted blend of Specificity & Destructiveness—remains a positive and highly significant predictor for both Strategic Hedger and Systemic Realigner outcomes, albeit with slightly lower overall fit (Δ AIC $\approx$ 6).
- The direction and magnitude of the Government-Proximity (GPI) and interaction terms are unchanged, confirming that state embeddedness dampens escalation even when pressure is captured as a single composite score.
- Because coefficients shrink only marginally (< 10 %), we conclude that our disaggregated specification is not over-fitted; CEI merely compresses the same signal.

Industry-Split Robustness

Table 9.
Industry-Split Robustness.

Statistic	High-Sensitivity Sectors (Semiconductors, AI, EV, Platforms)	Moderate/Low Sectors (Agri-Food, Finance, Retail, Energy, Basic Mfg.)
n (firms)	72	48
Pseudo-R²	0.213	0.192
Top Driver	Specificity (β = 1.51***)	Destructiveness (β = 0.94***)
GPI Slope	−0.36***	−0.31**
Interaction (Spec × GPI)	−0.24***	−0.21*
Hit-Rate	70 %	65 %

In high-tech industries, direct targeting (Specificity) is the strongest trigger; in moderate/low-tech sectors, operational loss potential (Destructiveness) dominates. The dampening role of GPI persists across sectors.

5.4.4. Sensitivity to Coding & Timing

± 1-Point Recoding Test: Re-scoring 10 borderline events changes no coefficient sign; average $|\Delta\beta|$ < 0.08. Time-Window Shift (2025Q1 → 2024Q3): Classification accuracy shifts < 2 %. Bootstrapped SEs (1 000 draws): 95 % CIs consistently overlap baseline estimates.

H1 and H2 remain strongly supported under all alternative specifications. H3 (Specificity × GPI moderation) is likewise stable, illustrating that state-proximate firms systematically under-react to direct targeting.

CEI offers parsimony but does not overturn the disaggregated insight; we retain the baseline model for core interpretation and use CEI as a robustness confirmation.

6. Discussion

6.1. Research Questions and Hypotheses

This study set out to answer a deceptively simple question: How do multinational enterprises (MNEs) strategically navigate the dual—and often conflicting—logics created by US–China geopolitical decoupling? By operationalising institutional pressure as Specificity and Destructiveness, and by observing firm responses along Substantiveness, Alignment Shift and Temporal Adaptiveness, we moved beyond binary "stay/leave" narratives toward a more nuanced, data-driven taxonomy of strategic behaviour.

The empirical evidence broadly supports our three core hypotheses:

H1 (Specificity → Substantiveness). Firms directly named or legally targeted are significantly more likely to adopt structural responses—an effect most visible in the transition from Symbolic Coupler to Systemic Realigner.

H2 (Destructiveness → Alignment Shift). As the operational stakes rise—from minor revenue leakage to existential technology bans—firms intensify their bloc re-orientation.

H3 (Specificity × GPI → Temporal Adaptiveness). The dampening role of state proximity is clear: SOEs and policy-partnered firms delay or dilute realignment even under high-specificity threats, whereas market-oriented MNEs respond pre-emptively.

These findings confirm earlier qualitative insights [3, 4] yet add statistical weight and cross-sector generalisability.

6.2. Theoretical Implications
6.2.1 From Institutional Duality to Institutional Trichotomy

Classic institutional duality posits an MNE caught between home- and host-country logics. Our data reveal a third locus of pressure: trans-jurisdictional security regimes (e.g., entity lists, outbound-investment screens) that act autonomously from either home or host institutions. Consequently, strategic responses are less about reconciling two sets of expectations than about simultaneously arbitraging, hedging, and sequencing across three overlapping rule systems.

6.2.2 Strategy Bundles versus Discrete Moves

Whereas prior work often treats strategic reactions as discrete decisions (exit, voice, loyalty), the clustering results underscore that firms adopt bundled repertoires. A "Strategic Hedger" is not merely halfway between symbolism and full realignment; rather, it is a distinct equilibrium combining moderate operational shifts, high alignment flexibility, and rapid timing. This supports recent calls for mid-range theorising [22] that captures hybridity rather than mutually exclusive archetypes.

6.2.3. Contingent Value of State Proximity

The moderating role of GPI complicates the conventional wisdom that state-affiliated firms are uniquely shielded from geopolitical shocks. While SOEs indeed exhibit lower odds of radical realignment, they are also locked-in when destructiveness escalates, exposing them to a slow-burn risk of technological obsolescence. For independent firms (GPI 5), state distance accelerates proactive repositioning—consistent with dynamic-capability theory's emphasis on sensing and seizing under uncertainty.

6.3. Managerial Implications

Anticipatory KPI dashboards. The marginal-effect curves show that a one-SD hike in Specificity or Destructiveness propels the probability of radical realignment by ≈ 9–11 pp. Senior executives can translate those thresholds into early-warning KPIs, linking policy-intel units with capital-budget committees.

Portfolio dual-track, not single-track exit. Strategic Hedgers, our second-largest cluster, demonstrate that partial supply-chain shifts plus market-diversification offers a viable middle path—particularly for firms with entrenched operations in both blocs.

State-proximity stress testing. SOEs and policy partners should model not only probability but also duration of sanction exposures. Their slower response clocks demand contingency funding for prolonged blockages in key inputs (e.g., advanced lithography).

6.4. Policy Implications

Governments seeking to shape firm behaviour must consider two levers:

Target precision. Legal naming triggers the steepest behavioural change. Broad sectoral guidance yields mainly symbolic compliance—suggesting that precise designations (e.g., entity lists) are more effective than blunt instruments.

Exit-versus-voice trade-off. For high-GPI firms, overly coercive measures may entrench reluctance, slowing divestment yet eroding competitiveness. Calibrated incentives (tax credits, R&D grants) can encourage orderly realignment without forcing crippling write-downs.

6.5. Limitations and Future Research

Cross-sectionality. Although we captured events up to 2025 Q1, the decoupling saga is ongoing. A panel design would track strategy shifts over multiple policy cycles.

Coding subjectivity. Despite NLP-assisted labelling, boundary events can straddle scoring thresholds. Greater triangulation with proprietary datasets (e.g., shipment bills, supplier-network graphs) would reduce classification error.

Non-US/China contexts. Our focus on the two primary blocs sidelines emergent pressures (e.g., EU digital sovereignty). Comparative studies across triad markets could test the generality of the three-dimensional response model.

This study enriches the geopolitical decoupling debate by moving from anecdote to evidence, demonstrating that MNE strategies vary systematically with pressure type, operational harm, and state embeddedness. By integrating institutional theory with quantitative clustering and multinomial regression, we shed light on the microfoundations of global economic fragmentation. Whether geopolitical rivalry escalates or stabilises, our framework offers scholars and practitioners a replicable template to map the evolving strategic landscape.

7. Conclusion & Future Research

Geopolitical decoupling has shifted from a speculative buzz-word to an operational reality confronting firms across strategic and seemingly "low-exposure" sectors alike. This study advances the conversation by (a) translating the abstract notion of institutional duality into two measurable pressures—Specificity and Destructiveness—and (b) demonstrating empirically how firms bundle three response dimensions—Substantiveness, Alignment Shift, and Temporal Adaptiveness—into four latent strategy profiles. In doing so, we have moved the debate beyond binary "leave-versus-stay" tropes toward a data-driven spectrum of adaptive behaviours. This study identified four distinct strategic response profiles among MNEs, derived from their strategic behaviors across three key dimensions: Substantiveness, Alignment Shift, and Temporal Adaptiveness.

The four profiles identified are:

1. Systemic Realigners: Firms that make decisive, structural changes in response to geopolitical pressures, proactively realigning their operations and markets. These firms are highly adaptive, with both early action and significant shifts in their business models.
2. Strategic Hedgers: Firms that engage in proactive but moderate adaptations, diversifying risk while still maintaining ties to their original market blocs. These firms adjust early, but with more measured actions compared to Systemic Realigners.
3. Incremental Adapters: Firms that respond gradually, making small adjustments to their operations over time without fully realigning their strategic position. These firms show a reactive stance, waiting for clear signs before committing to significant change.
4. Symbolic Couplers: Firms that engage in symbolic moves, such as making visible investments, but avoid significant realignment in their geopolitical positioning. These firms are typically reactive and maintain diplomatic neutrality.

7.1. Discussion for Theory

This research contributes to the literature on institutional duality and geopolitical decoupling by identifying distinct strategic profiles that firms adopt when navigating geopolitical pressures. Previous studies have primarily focused on symbolic management or selective coupling, but our results show that firms may exhibit a range of responses, from full realignment to symbolic adaptation, depending on their industry sensitivity, government ties, and exposure to decoupling risks. The findings also expand our understanding of strategic adaptation under conditions of institutional conflict. By introducing the Composite Exposure Index (CEI) and integrating government proximity (GPI) as moderators, we provide a more granular framework for analyzing how regulatory and market pressures shape MNE behavior.

7.2. Limitations and Future Research

While this study makes significant contributions to understanding the strategic behaviors of MNEs under geopolitical pressure, it is not without limitations:

1. The cross-sectional design limits the ability to observe temporal shifts in strategic responses. Future studies should use longitudinal data to assess how MNE strategies evolve over time as decoupling pressures intensify.
2. The reliance on publicly available data means that certain private or less visible firms might not have been adequately represented, potentially skewing results. Future research could leverage alternative data sources, such as executive interviews or firm surveys, to complement publicly available data.
3. This study focused on geopolitical decoupling in the context of U.S.-China relations. Future studies could expand this framework to other geopolitical contexts (e.g., EU-Russia, Japan-China tensions) to assess whether the identified profiles hold in other regions.

7.3. Conclusion

In an era when geopolitics increasingly governs markets, multinational strategy is no longer a linear optimisation of cost and demand but a multidimensional negotiation among competing institutional logics. By unveiling systematic links between the type of political pressure, the depth and timing of firm response, and the moderating role of state proximity, this research offers both scholars and practitioners a robust lens for anticipating how global business will reorganise under sustained geopolitical fracture. The framework and metrics introduced here provide a replicable template for monitoring the next chapter of international business—whether that chapter is written in the language of further fragmentation, cautious re-engagement, or a new equilibrium of strategic duality.

Transparency:

The author confirms that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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Appendix

Appendix1.
Cluster Profile Summary.

Label	Profile Name	Count.	Substantiveness	Alignment Shift	Temporal Adaptiveness	Profile Characteristics
0	Systemic Realigners	15	4.73	4.33	4.53	High scores on all three dimensions; hese firms are the most decisive, engaging in major restructuring, market exits, or relocations. Their responses are both early and strategically comprehensive, as they fully realign their operations and partnerships.
1	Strategic Hedgers	29	3.48	3.03	4.31	This cluster exhibit moderate-to-high adaptiveness across the board. They engage in early actions, but their responses tend to be more measured. These firms diversify risk by shifting production or entering new markets, but they do not fully cut ties with existing blocs.
2	Incremental Adapters	27	3.21	2.79	2.98	Firms that make gradual changes in response to decoupling pressures. These firms exhibit moderate scores across all dimensions, indicating that they are less aggressive in their responses. These changes happen slowly over time, and their alignment shifts remain limited.
3	Symbolic Couplers	28	3.94	2.21	2.89	These firms are quick to make visible investments, such as building new facilities or acquiring assets, but they avoid significant political realignment. Instead, they focus on symbolic or superficial actions, such as issuing public statements, while maintaining their existing geopolitical and market alignments. Their actions are often reactive rather than anticipatory.