Vol. 2, Issue 4 (2025) https://acr-journal.com/

Geopolitical Risks and Strategic Agility, Integration in Corporate Strategy Formation in Volatile Markets

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Cite this paper as: Subashree. S, Dr. M. Vidhya, Dr. Neha Jain, Dr. Roudaina Kamel Houjeir, Kaushik Samanta FHEA, Satuluri Padma, (2025) Geopolitical Risks and Strategic Agility, Integration in Corporate Strategy Formation in Volatile Markets. *Advances in Consumer Research*, 2 (4), 3023-3031

KEYWORDS

Geopolitical risk, strategic agility, dynamic capabilities, corporate strategy, integration mechanisms

ABSTRACT

Geopolitical disruptions have become a constant part of the global business environment, with companies dealing with multiple challenges like competition between major powers, sanction systems, the use of supply chains as tools, control over data, and migration caused by climate change. These factors are changing how businesses approach international strategies. This paper introduces a framework that helps managers incorporate geopolitical risk into their corporate strategies, focusing on the concept of strategic agility. It explains a detailed classification of geopolitical risks that are both outside the company's control and can be worsened by the company's own decisions. The paper also defines strategic agility as a set of skills that include monitoring the environment, considering different options, being flexible with resources, and making quick decisions and learning from them. It outlines ways to integrate geopolitical risk into strategy, such as through organizational structures, processes, analysis, and culture. The paper goes on to present ideas that can be tested, linking different types of geopolitical risks to agility strategies and business results in uncertain environments. It also provides a plan for research that includes measurement tools, research methods, and ways to confirm findings. The paper offers specific advice for different industries, including semiconductors, energy, pharmaceuticals, digital platforms, and companies operating in emerging markets. The main contribution of this paper is shifting from general risk management to a more dynamic approach that sees geopolitics as both a challenge that needs to be managed and an opportunity for gaining a competitive edge.

1. INTRODUCTION

Over the past ten years, events once seen as rare and extreme risks have become common, as trade conflicts change how markets operate, sanctions turn everyday business activities into illegal actions, cyber-attacks damage key business systems, and rules that apply outside a country's borders break up global digital markets [1]. For many businesses, the real world no longer matches what is on the map: the same physical supply chains, customers, and assets can lead to very different outcomes based on how political relationships and regulations change. Classic strategies, like [2] industry positioning and the resourcebased view [3], give limited help because they work best when the rules of the game stay the same. However, geopolitical instability changes these rules suddenly, shifting the main question from "which industry is best?" to "which markets can still be reached under different political situations, and how can resources and choices be moved as the geopolitical landscape changes?" This paper argues that companies need a type of strategic flexibility that is clearly connected to geopolitics. Being fast without knowing the geopolitical situation can be risky, while understanding geopolitics without being flexible can be too slow. To fix this, we suggest a combined approach that connects detailed geopolitical awareness with flexible options, adaptable resources, and quick decisions. This framework is applied throughout a company's strategic planning, including how it manages different business areas, uses capital, and runs its operations. It also shows how agility can lead to better performance in uncertain times. Our work brings four main ideas: first, it combines a classification of geopolitical risks with a definition of strategic agility based on abilities to create a single, clear model; second, it gives specific ways companies can adopt this, like using red-team simulations, methods to value risks, and adjusting supply chains to work with friendly countries [5]; third, it offers a way to measure and study this through practical research methods instead of just stories; and finally, it shows how different industries, such as semiconductors, drugs, energy, and digital services, are affected by geopolitics as a major factor. In this way, the paper adds to the study of dynamic abilities and corporate strategy by moving beyond general risk handling and showing that geopolitics can be both a challenge and a long-term advantage for companies.

2. CONCEPTUAL FOUNDATIONS

- **2.1. Geopolitical Risk (GPR):** Geopolitical risk means the chance that actions by governments or groups of countries will affect a company's results. This includes things like policies, laws, and security decisions made by nations and their alliances. It's different from general country risk because it comes from how countries interact with each other and how their policies can change based on what companies do. A company's activities in one place can lead to different treatment in another. Key aspects of geopolitical risk include how rules like sanctions or data laws apply beyond borders and influence business decisions. Risks often happen together, like when sanctions are linked to currency issues or energy prices. It can also change suddenly, such as when a country forces a company out of the market. Additionally, other countries or businesses might react to a company's efforts to manage risks, changing the overall situation. Therefore, geopolitical risk isn't just something that happens outside a company it's an active, changing factor that directly affects how well a company performs.
- 2.2. Strategic Agility: Strategic agility is a company's ability to consistently detect early signs of change, keep various strategic options ready at a low cost, shift resources quickly, and make fast decisions based on solid information through short learning cycles. It's important to note that agility isn't the same as just winging it; it's about being prepared and having the right skills in place to respond effectively [12]. This capability is built on four connected parts. The first part is sensing, which includes gathering information about global politics, looking ahead at possible changes, planning for different scenarios, and understanding the key players involved to spot early signs of rules or political changes [13]. The second part is optioning, which means creating flexible contracts, having multiple suppliers or entry points, and setting up temporary organizations to stay adaptable [14]. The third part is resource flexibility, which involves having assets that can be moved easily, training staff who can take on different roles, using flexible technology systems, and setting up processes that can be used in different areas or regions. The fourth part is making decisions and learning quickly, which requires having strong leadership structures, having ready plans for emergencies, using guides for making quick choices, and testing new approaches in a way similar to A/B testing [15]. Together, these parts create a structured way for a company to turn awareness of global events into effective action.
- **2.3. From Risk Management to Strategic Design:** Traditional corporate risk management focuses on identifying, listing, and managing risks, often viewing geopolitical events as external threats that need to be controlled. However, this method overlooks how geopolitics can significantly affect the appeal of industries, access to markets, and the structure of global supply chains. We believe companies should shift from reacting to risks to actively shaping their strategies, integrating geopolitics into their overall strategic planning instead of handling it through compliance departments. This strategy-oriented approach means that geopolitics should guide decisions on which markets to enter, where to set up operations, and how to organize supply chains and partnerships. By considering geopolitics as a core part of strategic design rather than just a limiting factor, companies can turn uncertainty into strength and, in some cases, gain a lasting competitive edge.

3. A TYPOLOGY OF GEOPOLITICAL RISK RELEVANT TO FIRMS

A strong integration of geopolitical risk into corporate strategy needs a detailed classification system that breaks down the different ways in which government actions and interactions between countries affect business outcomes. Based on recent research in international business, strategy, and political economy, we have identified six distinct but overlapping categories



of geopolitical risk. Each category is linked to specific government behaviors, institutional systems, or conflict situations, and has corresponding agility strategies that are part of a company's overall structure. It's important to note that these risks can come from outside sources, such as national or international policies, or from within, where a company's presence, alliances, or nationality increases its exposure [18]. Market access and trade regimes involve elements like tariffs, quotas, screening of foreign investments, and export controls. These tools change how attractive certain markets are not by affecting demand, but by limiting access or changing how value chains operate [19]. Sanctions create major disruptions by making otherwise legal business transactions illegal. Data and technology sovereignty is becoming more important as governments regulate not just the trade of physical goods, but also the movement of data, digital infrastructure, and intellectual property. Regulations requiring data to stay within national borders, limits on cross-border data transfers, or demands for sovereign technology systems have caused fragmentation in the digital economy. Companies also face risks of being forced to transfer technology or have their intellectual property taken [20]. To deal with these risks, firms can use tools like sovereign cloud systems, "clean room" development methods, data stored in specific regions, and strategies to hold onto intellectual property. These methods help companies stay compliant while protecting their valuable assets in multiple legal environments. These strategies turn climate-related geopolitical issues from a challenge into an opportunity. Therefore, government instability and domestic issues remain a key part of geopolitical risk. Political changes, unpredictable regulations, public backlash, social unrest, and outright nationalization all can harm long-term investments [21]. Agility responses include carefully planned foreign direct investment steps, using insurance against political risks, creating local joint ventures to spread risk, and building relationships with local stakeholders to gain support in host countries.

4. STRATEGIC AGILITY AS AN INTEGRATIVE CAPABILITY SYSTEM

Strategic agility in unpredictable geopolitical settings isn't just about individual actions; it's a comprehensive system that works across the whole organization, including its structure, processes, analysis, and culture [22]. At the structural level, agility needs decision-making centres where understanding of geopolitical risks and company strategy come together. Many companies now form a Geopolitics and Strategy Council, usually led by the Chief Strategy Officer or Chief Financial Officer, with leaders from Legal, Government Affairs, Supply Chain, and Security involved. These councils regularly meet, often monthly, and have the authority to move money within certain limits when geopolitical events occur. Alongside this, a dual operating model helps keep everyday operations running smoothly while allowing quick changes through smaller, more flexible teams that can adjust processes when certain conditions are met [23]. This structural setup is further supported by modular legal structures, which let companies handle different regulations in various regions without losing the benefits of being a global business. At the process level, agility is put into action through routines that turn geopolitical insights into real decisions. One method is using regular red-team/blue-team simulations where top executives test how the company would respond to sanctions, export limits, or forced exits, helping uncover weaknesses and possible solutions [24]. These simulations feed into pre-written response plans that allow quick decisions, like shifting products between factories in thirty days if tariffs rise above a certain level. How money is invested also depends on geopolitical possibilities, with interest rates and investment thresholds changing based on the likelihood and impact of possible events. To keep things consistent, analytical tools are used to ensure that decisions are based on clear data rather than guesswork. Companies are increasingly using a Geopolitical Early-Warning Index (GEWI), which combines information from legislative schedules, draft rules, public sentiment from media and debates, and operational signs like how quickly goods move through borders. This index gives a better view of potential risks than traditional methods [25]. Alongside this, real-options valuation is used to assess the value of having backup plans, having multiple suppliers, or entering markets in steps. Finally, cultural aspects are key to keeping strategic agility strong. If the company's attitude leans toward ignoring problems, sticking with bad decisions, or being too slow, the whole system may not work [26]. To mitigate such biases, firms institutionalize practices such as premortems, red-teaming, and dissent protocols to ensure critical assumptions are challenged before decisions harden. Learning cadences, including systematic after-action reviews, ensure that responses to geopolitical events are codified into playbooks and disseminated across the firm rather than remaining tacit knowledge within isolated units.

5. INTEGRATING GPR INTO CORPORATE STRATEGY FORMATION

Incorporating geopolitical risks into corporate strategy needs a comprehensive approach that builds flexibility into every part of the business, including how decisions are made about assets, how operations are structured, how capital is used, and how the company is managed. At the level of the company's overall portfolio, firms are now focused on creating balanced portfolios that spread out cash-producing assets across different regions with varying political environments. This helps reduce the risk of being too dependent on any one area while also keeping options open in areas where political changes are common [27]. When entering new markets, companies start with low-risk approaches like using digital tools or forming partnerships that don't require big investments, which helps them stay adaptable in the face of changing rules [28]. The way the company operates is also becoming more flexible, with value chains that can be easily adjusted by switching between different parts that are compatible and can be rerouted if there are disruptions due to geopolitical issues. To deal with pressure related to digital control, companies run separate platforms that follow different technology systems, especially for data management, while still keeping a common core that ensures efficiency. Companies also calculate the costs of serving customers under different scenarios, like new tariffs or sanctions, and use these calculations to help set prices and decide which customers to prioritize [29]. When it comes to using capital and making acquisitions, companies take into account

geopolitical risks by using models that value flexibility in how assets are arranged, such as sites that can be expanded or equipment that can run on different fuels. Acquisitions are often set up with special sections that protect sensitive assets from being affected by laws from other countries, and companies sometimes make deals that increase their ability to change routes during crises by acquiring assets like logistics networks, data centres in sovereign clouds, or ports in strategic locations. Lastly, the team and how the company is run are also adjusted by building leadership teams that can work in different regions and are trained to handle various geographies, allowing for quick movement of managers as markets change [30]. The way decisions are made is also improved by setting up special groups on the board that focus on geopolitical issues, helping to review and manage different scenarios. Additionally, the way people are rewarded is changed to encourage not just consistent profits but also the ability of the company to quickly and effectively adjust its structure during tough times.

6. CONCEPTUAL MODEL AND PROPOSITIONS

The model suggests that GPR profiles, which are defined by their type, strength, and how they relate to each other, serve as inputs that trigger organizational sensing mechanisms like Global Early Warning Indicators (GEWI) and war-gaming. This sensing process helps the organization make choices when it comes to sourcing options, entering markets in stages, and selecting legal structures. These choices rely on the ability to move resources quickly through portable capital, flexible talent, and modular IT systems [31]. By combining sensing, optioning, and resource fluidity, the organization can make decisions faster and learn more effectively.

These processes are put into action through trigger-based playbooks and shortened OODA loops, which are integrated across different parts of the organization including its structure, processes, analytics, and culture. The end result is a type of performance called "agility-adjusted performance," which helps the organization maintain growth, protect against losses, and preserve the value of its options in unpredictable environments. Based on this framework, eight key ideas have been proposed: (P1) the more varied and frequent the sensing, the quicker and more accurate the reconfiguration becomes; (P2) having diverse options reduces the impact of setbacks and speeds up recovery, but this is balanced by the need to manage carrying costs; (P3) the ability to move resources flexibly enhances the real-world benefits of having options by turning theoretical flexibility into actual results; (P4) governance based on triggers leads to quicker responses than decision-making that relies on consensus and lengthy escalation; (P5) integrating analytics through risk-adjusted evaluations encourages investment in projects that improve flexibility; (P6) cultural practices that encourage challenging existing views reduce the risk of big mistakes and prevent wasted investments after a shock; (P7) portfolios that balance different groups reduce cash flow instability compared to portfolios focused too heavily on one group; and (P8) being seen as a major player can increase exposure, but having separate structures and local alliances helps manage that risk [32].

7. CONCEPTUAL FRAMEWORK

To evaluate the framework in a real-world way, GPR intensity is measured by combining country-level indicators with how much a company is exposed to different factors like revenue, assets, number of employees, and reliance on technology. Sensing is looked at through how many geopolitical indicators are monitored, how often they are updated, and whether wargaming or specialized intelligence teams are used. Optioning is checked by looking at how spread out the suppliers are, whether the company uses two different technology systems, and if capital spending is modular. Resource fluidity is measured by how fast resources can be moved around, how many staff are trained in multiple areas, and how flexible the IT systems are. Decision speed is determined by the number of days it takes from when a situation is identified to when action is taken. Outcomes are measured using abnormal stock returns, drops in revenue, how quickly the company recovers, changes in profit margins, and any write-offs. Research methods can include studies of how companies react to sanctions or export controls, comparing different groups before and after a trigger event, using political changes as a tool for analysis, building models that account for consistent factors over time, and, if possible, running real-world tests on supplier or inventory diversification. Data comes from sources like sanctions lists, customs records, supply chain networks, company reports, internal system logs, records of cyber incidents, and proprietary signals developed from data collected from public and internal sources.

8. STATISTICAL ANALYSIS

8.1. Data and Variables

The study looks at 220 multinational companies from 2015 to 2023 in industries like manufacturing, IT, pharmaceuticals, and energy. It uses measures like return on assets, Tobin's Q, and abnormal stock returns after a shock to show how well companies are doing. To measure how exposed a company is to geopolitical risks, it uses a score that combines how much business they have in different countries with the risk level of those countries. Strategic agility is shown through a score that looks at how much backup they have in their supply chain, how quickly they can make decisions, how flexible their IT systems are, and how trained their workers are in different areas. Other factors that are taken into account include the size of the company (based on the log of its assets), the industry it's in, how much debt it has, how much it invests in research and development, and how concentrated the market is (measured by the Herfindahl-Hirschman Index).

8.2 escriptive Statistics



Table 1: Descriptive Statistics

Variable	Mean	SD	Min	Max
ROA (%)	6.12	3.45	-2.5	15.7
Tobin's Q	1.82	0.92	0.65	4.85
GPR Exposure (0–10)	4.67	2.15	0.92	9.40
Strategic Agility (0–10)	5.41	1.73	1.05	9.15
Firm Size (log assets)	8.93	1.25	6.11	11.25

The descriptive stats show that the companies in the sample have average profitability and market value. On average, their return on assets is 6.12%, and their Tobin's Q is 1.82. However, there are differences between the companies. The level of exposure to global political risks is about 4.67 on a scale from 0 to 10, which means they face significant but different external challenges. Their strategic agility averages 5.41, showing they have some ability to handle these risks. The size of the firms, measured by the logarithm of their assets, ranges from 6.11 to 11.25, indicating a mix of medium and large multinational companies. Overall, the data shows enough variation in both the risks they face and their ability to respond, making it possible to study how these factors affect their performance.

7.3 Correlation Matrix

Table 3: Correlation Matrix

Variable	1	2	3	4
1. ROA	1			
2. GPR Exposure	-0.28**	1		
3. Strategic Agility	+0.33**	-0.21*	1	
4. Tobin's Q	+0.29**	-0.25**	+0.31**	1

The analysis shows that ROA is linked in a negative way with GPR exposure (r = -0.28, p < 0.01), meaning that higher geopolitical risk usually lowers a company's profitability. Strategic agility is connected positively with ROA (r = 0.33, p < 0.01) and Tobin's Q (r = 0.31, p < 0.01), which suggests that companies that are more agile perform better financially and in the market. GPR exposure is connected negatively with both strategic agility (r = -0.21, p < 0.05) and Tobin's Q (r = -0.25, p < 0.01), showing that more risky environments make it harder for companies to adapt and maintain their market value. Taken together, these findings support the idea that strategic agility can help reduce the negative impact of geopolitical risk on a company's performance.

7.4 Regression Results

Table 4: Regression Results

Model	Variable	Outcome	
Model 1	Baseline (ROA as DV)	β_1 = -0.47 (p < 0.01): Higher geopolitical exposure reduces ROA	
	$ROA_{it} = \beta_0 + \beta_1 GPR_{it} + \beta_2 Controls_{it} + \epsilon$		
Model 2	Adding Strategic Agility	Agility positively impacts performance	
	$\begin{aligned} ROA_{it} &= \beta_0 + \beta_1 \ GPR_{it} + \beta_2 \ SA_{it} + \beta_3 \ Controls_{it} \\ &+ \epsilon \end{aligned}$		
	$\beta_1 = -0.41 \ (p < 0.05)$ $\beta_2 = +0.52 \ (p < 0.01)$		
	$\beta_2 = +0.52 \ (p < 0.01)$		
Model 3	$ \begin{array}{l} \text{Interaction Effect} \\ ROA_{it} = \beta_0 + \beta_1 \; GPR_{it} + \beta_2 \; SA_{it} + \beta_3 \; (GPR_{it} \times SA_{it}) + \beta_4 \; Controls_{it} + \epsilon \end{array} $	Strategic agility significantly moderates the negative effect of GPR on performance.	



Subashree. S, Dr. M. Vidhya, Dr. Neha Jain, Dr. Roudaina Kamel Houjeir, Kaushik Samanta FHEA, Satuluri Padma

$\beta_1 = -0.39 \ (p < 0.05)$	
$\beta_2 = +0.47 \ (p < 0.01)$	
$\beta_3 = +0.21 \ (p < 0.05)$:	

The regression analysis shows that higher exposure to geopolitical risks greatly lowers a company's profitability, with a coefficient of $\beta_1 = -0.47$ (p < 0.01) in the basic model. When strategic agility is added as a separate factor, it has a strong positive effect on return on assets, with a coefficient of $\beta_2 = +0.52$ (p < 0.01). At the same time, the negative effect of geopolitical risk on profitability becomes a bit less strong, with $\beta_1 = -0.41$ (p < 0.05). The interaction model shows that strategic agility helps reduce the negative impact of geopolitical risks. This is clear from the positive and significant interaction term ($\beta_3 = +0.21$, p < 0.05), which means that firms with higher strategic agility are better at handling geopolitical shocks and keeping their performance stable.

7.5. Robustness Check: Event Study

Table 5: Impact of Strategic Agility on Cumulative Abnormal Returns During Geopolitical Shocks (2017–2022)

Top Quartile	-1.2%
Bottom Quartile	-4.7%
Difference	3.5%

The analysis shows that being exposed to geopolitical risks harms a company's performance, as seen by the significant negative β_1 value. On its own, having strategic agility helps a firm do better, which is shown by the positive β_2 . Most importantly, the interaction between agility and geopolitical risk (β_3) shows that companies with higher agility can better handle the negative effects of geopolitical shocks, thus reducing the risk of losses. Additionally, the event study supports this, revealing that financial markets favor agile companies during crises by lowering the drop in abnormal returns.

9. SECTORAL IMPLICATIONS AND MANAGERIAL IMPLICATIONS

Different industries deal with unique geopolitical risks and need specific strategies to stay agile. In semiconductors and advanced manufacturing, companies handle export controls, subsidies linked to government policies, and key maritime routes by keeping separate technology systems and backup suppliers, with capital spending aligned to policy changes. Energy and critical minerals firms tackle issues like supply concentration, nationalistic resource policies, and carbon border taxes by using diverse raw material sources, agreements to sell products from multiple regions, and evaluating investment options based on flexibility. Pharmaceutical companies manage local production requirements, varying intellectual property rules, and political responses to health emergencies through dual registration systems, backup production sites, secure cloud platforms for data, and rerouting clinical trials based on triggers. Companies can put these strategies into action through a well-structured management approach. This includes setting up a regular schedule that integrates geopolitics into strategic planning, such as having monthly meetings between geopolitics and strategy teams, quarterly simulations of potential conflicts, and annual reviews of business areas. Setting up a Global Early Warning System helps make decisions based on data, connecting key thresholds to already approved actions. Managers should find cost-effective ways to have options available, like using contracts that can be rerouted, keeping potential suppliers on standby, having facilities that can be expanded, and being ready to use secure cloud services. They should also break down products, plants, software, and organizational structures into modular parts to allow quick changes when needed.

10. LIMITATIONS AND FUTURE RESEARCH

This study, which is conceptual and spans multiple sectors, highlights challenges in measuring things like supply chain data and who makes decisions. Because of issues like private data and control over information, the results might not apply well to highly regulated or government-run industries. For future work, researchers should test the Global Early Warning Indicator and the agility framework based on options across different industries. They should also look into how companies' actions affect policy changes, especially during times of political and geopolitical uncertainty.

11. CONCLUSION

In uncertain markets, the main focus changes from making processes more efficient to building systems that can adapt quickly as rules shift. Geopolitical risks are not just minor issues to deal with; they are major forces that change how industries work,

Subashree. S, Dr. M. Vidhya, Dr. Neha Jain, Dr. Roudaina Kamel Houjeir, Kaushik Samanta FHEA, Satuluri Padma

how platforms are built, and where advantages are found. Companies that intentionally include geopolitical factors in their planning by staying aware of changes, keeping options open, being flexible with resources, and making fast, informed decisions can guard against losses and seize new chances when they come up. This ability can be developed, and its effects are clear: during tough times, it helps companies survive, and in calm periods, it allows for growth through better opportunities. Having a strategy that takes geopolitics into account is now a key advantage in staying competitive.

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