Strategic Resilience During Trade Policy Volatility: A Capability-Based Framework for Competitive Advantage

ROWLAND CHEN

The Silicon Valley Laboratory Inc., California, USA

rchen@thesvlab.com; [ORCID: 0000-0003-4604-7739]

SAROJ KOUL

OP Jindal Global University, Haryana, India

skoul@jgu.edu.in; [ORCID ID: 0000-0002-3051-5625]

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Abstract

Purpose: A Trade Policy Resilience (TPR) framework is introduced in this paper as a strategic response to rising trade policy volatility. It redefines resilience from risk mitigation to a dynamic capability that helps firms maintain commitments, grow market share, and lead ecosystems during disruptions.

Design/Methodology/Approach: The framework was developed through practice-based theory building, drawing on long-term consulting engagements with Global 1000 enterprises. It includes ten dimensions and thirty capabilities that together define an enterprise's resilience maturity. Validation is demonstrated through a comparative case analysis of four multinational firms (Intel, Toyota, Peloton, and BASF), showing differences in TPR maturity and strategic outcomes. Validation of the framework across industries, continents, and scales was conducted using five companies as case examples (BYD Automotive, Tonies, Apple, O'Reilly, and Cisco). A structured diagnostic tool supports organisational self-assessment and capability development.

Findings: Firms with high TPR maturity incorporate resilience into strategic planning, enabling proactive responses to trade policy shocks. The framework links supply chain diversification, regulatory agility, financial hedging, and stakeholder trust to achieving a competitive advantage. Case evidence indicates that resilience is not merely about operational continuity but also serves as a form of strategic differentiation.

Practical Implications: CEOs and COOs, as well as risk leaders, can apply the TPR framework to integrate resilience into their competitive strategy formulation. It promotes cross-functional alignment and investment priorities in volatile global markets.

Originality/Value: This study contributes to the literature on dynamic capabilities and strategic resilience by providing a scalable and diagnostic framework for adapting trade policy. It bridges theory and practice, providing a tool for both scholarly inquiry and executive decision-making.

Keywords: trade policy volatility, strategic resilience, dynamic capabilities, supply chain agility, geopolitical risk, competitive advantage, corporate strategy

1. Introduction

Recent years have seen global trade become more unstable due to tariff surges, export controls, and regulatory fragmentation. Once guided by multilateral norms, trade policy now reflects unilateral actions, election cycles, and geopolitical shifts (**WTO, 2025; UNCTAD, 2025a**). For

multinationals, this volatility results in operational disruptions and strategic challenges related to market access, pricing, and compliance (**Bown & Irwin, 2020; Baldwin, 2022**).

Traditional approaches to trade risk management, focused on compliance and contingency planning, are proving inadequate. As disruptions become systematic rather than sporadic, firms need to develop capabilities to anticipate, absorb, and capitalise on policy shocks. This paper presents a Trade Policy Resilience (TPR) framework, a capability-based model designed to help firms turn trade policy volatility into a source of competitive advantage.

Drawing on practice-based insights and comparative case analysis, the TPR framework identifies ten dimensions and thirty capabilities that collectively define an enterprise's resilience maturity. The framework enables leadership teams to diagnose capability gaps, prioritise strategic investments, and align resilience with customer trust and market positioning. By integrating supply chain agility, regulatory foresight, and stakeholder communication, the framework advances the literature on dynamic capabilities (**Teece, 2007)** and strategic resilience (**Sheffi, 2005; Ivanov, 2020**).

The remainder of this paper is structured as follows: Section 2 reviews relevant literature; Section 3 outlines the methodology; Section 4 presents the TPR framework; Section 5 analyses four enterprise cases; Section 6 discusses strategic implications; and Section 7 concludes with directions for future research.

2. Literature Review

2.1 Trade Policy Volatility and Firm-Level Strategic Exposure

Trade policy volatility has intensified in recent years, driven by geopolitical tensions, protectionist agendas, and the erosion of multilateral trade institutions (**Bown & Irwin, 2020; Baldwin, 2022**). The shift from rules-based to power-based trade regimes has introduced significant uncertainty for multinational enterprises (MNEs), affecting investment decisions, supply chain configurations, and pricing strategies (**Evenett & Fritz, 2021; WTO, 2025)**. Empirical studies show that trade policy uncertainty can depress firm-level exports, delay capital investments, and increase operational costs (**Handley & Limao, 2017; Caldara et al., 2020**).

While macroeconomic analyses have quantified the impacts of policy shocks on GDP and trade volume (**UNCTAD, 2025a; Ossa, 2025**), fewer studies have examined how firms strategically respond to such volatility. **Henisz (2016)** and **Meyer et al. (2009**) argue that firms must develop non-market capabilities to navigate institutional voids and regulatory fragmentation. However, the literature lacks a structured framework for assessing firm-level resilience to trade policy shocks; an important gap this paper addresses.

2.2 Strategic Resilience: From Shock Absorption to Competitive Differentiation

Resilience has evolved from a concept of passive endurance to one of proactive adaptation and transformation (**Holling, 1973; Duchek, 2020**). In organisational theory, resilience is increasingly viewed as a dynamic capability that enables firms to anticipate, absorb, and recover from disruptions while maintaining strategic intent (**Lengnick-Hall et al., 2011; Williams et al., 2017**). **Sheffi (2005)** introduced the idea of "resilience dividends," where firms that invest in flexibility and visibility outperform peers during crises.

Recent scholarship highlights that resilience is not merely about bouncing back but about bouncing forward—leveraging disruption for strategic renewal (**Vogus & Sutcliffe, 2007; Linnenluecke, 2017**). In the context of supply chains, **Ivanov (2020)** and **Wieland & Durach** (2021) highlight the importance of structural flexibility, digital integration, and ecosystem

coordination. However, most resilience frameworks remain sector-specific or operationally focused, with limited integration into board-level strategy or trade policy contexts.

2.3 Dynamic Capabilities and the Architecture of Adaptation

The dynamic capabilities view (DCV) provides a strong theoretical framework for understanding how firms adapt to volatile environments (**Teece et al., 1997; Teece, 2007**). DCV suggests that competitive advantage in turbulent contexts arises not from static resources but from a firm's ability to sense opportunities, seize them, and reconfigure assets accordingly (**Eisenhardt & Martin, 2000; Helfat & Winter, 2011**). These microfoundations (sensing, seizing, and transforming) are especially relevant for managing trade policy shifts.

Empirical applications of DCV have covered digital transformation (**Warner & Wäger, 2019**), crisis response (**Wenzel et al., 2021**), and internationalisation (**Zahra et al., 2006**). However, few studies have operationalised dynamic capabilities within the context of trade policy turbulence. This paper contributes by translating DCV into a structured, diagnostic framework (the TPR model) that allows firms to assess and develop resilience capabilities across ten strategic dimensions.

2.4 Capability-Based Frameworks and Strategic Diagnostics

Capability-based frameworks are increasingly popular as methods for strategic diagnosis and transformation (**Barney, 1991; Chen et al., 2025; Grant, 1996**). They help firms identify gaps, prioritise investments, and align internal skills with external needs. In resilience studies, models such as the Resilience Engineering framework (**Hollnagel et al., 2006**) and the Adaptive Cycle (**Gunderson & Holling, 2002**) offer valuable theoretical insights but lack detailed operational guidance.

Recent efforts to bridge this gap include the *Supply Chain Resilience Assessment* (**Pettit et al., 2013**) and *Organisational Resilience Health Check* (**Burnard & Bhamra, 2011**). However, these tools often focus on operational continuity rather than strategic opportunity. The TPR framework advances this literature by offering a board-level diagnostic that links resilience capabilities to competitive positioning, customer trust, and ecosystem leadership.

2.5 Dynamic Capabilities in Supply Chain Resilience, Sustainability, and Innovation

Building on the DCV's microfoundations of sensing, seizing, and transforming (Teece, 2007), recent research shows that dynamic capabilities are now essential for resilience, agility, and sustainability across various supply chains and organizational settings. Studies reveal that these capabilities allow firms to resist disruptions and increase resilience (**Stadtfeld & Gruchmann, 2023**) while promoting agility and sustainability through relational and adaptable methods (**Akram et al., 2024**). Case studies demonstrate their sector-specific importance, as seen in the printing and paper supply chain (**Tarpey et al., 2023**), and in enhancing agility through advanced technologies such as additive manufacturing (**Naghshineh, 2024**).

At the intersection of digital innovation and responsible practices, dynamic capabilities enable organisations to gain a competitive edge (**de la Torre & De la Vega, 2025**). Studies show that combining big data analytics with green dynamic capabilities boosts supply chain agility and green competitiveness, especially when coupled with innovativeness (**Li et al., 2023**). Sustainable dynamic capabilities are closely linked to corporate sustainability and the ability to sustain a competitive advantage over time (**Bari et al., 2024**). Furthermore, marketing-specific dynamic capabilities boost competitiveness in resource-intensive sectors, such as the oil industry (**Almayyahi et al., 2024**).

Industry analyses suggest that supply chain agility and integration contribute to a green competitive advantage in the chemicals industry (**Özcan et al., 2024**), while the adoption of big data, ambidexterity, and green supply chains enhances firm performance (**Al Mamun et al., 2025**). These studies validate the DCV as a framework for resilience, agility, and sustainability, supporting the use of the TPR framework in trade turbulence.

Despite growing evidence, most DCV applications are sector-specific and focus on operations, often neglecting the impact of trade policy volatility. This gap highlights the need for a framework that translates DCV insights into effective board strategies for firms navigating volatile trade regimes. The proposed TPR model addresses this by utilising dynamic capabilities as resilience mechanisms in response to trade policy volatility.

3. Methodology

This study uses a practice-based theory-building approach, supported by comparative case analysis and structured diagnostic modelling. The TPR framework was developed inductively through long-term consulting engagements with Global 1000 enterprises and validated via multiple case sources and a capability-based assessment tool.

3.1 Framework Development

The TPR framework emerged from grounded observation of strategic behaviours among firms navigating trade policy disruptions. Following **Eisenhardt's (1989)** principles of theory building from case research, the framework was iteratively refined through pattern recognition across industries and geographies. The resulting model comprises ten dimensions and thirty capabilities, each representing a distinct facet of enterprise resilience.

The framework conceptually builds on the dynamic capabilities' literature (**Teece, 2007; Helfat & Winter, 2011**), resilience engineering (**Hollnagel et al., 2006),** and strategic agility (**Doz & Kosonen, 2010**). It also incorporates insights from capability-based strategy (**Grant, 1996; Peteraf & Barney, 2003**) and organisational design for turbulence (**Lengnick-Hall & Beck, 2005**; **Wenzel et al., 2021**). Unlike static maturity models, the TPR framework highlights interdependent capabilities and strategic integration. Recent advances inform this design, including validated resilience measurement models (**Wood et al., 2019; Santos et al., 2023**), resilience maturity frameworks (**Gracey, 2020**), and scale development practices in strategic change capability (**Bekos et al., 2025**), which serve as anchors for reliability and reproducibility.

3.2 Case Selection and Validation

To demonstrate the framework's applicability and variation in maturity, four multinational enterprises were selected: Intel (U.S.), Toyota (Japan), Peloton (U.S.), and BASF (Germany). These cases were chosen based on their exposure to trade policy shocks between 2020 and 2025, diversity in sector and geography, and the availability of public disclosures. Case selection adhered to theoretical sampling principles (**Glaser & Strauss, 1967; Yin, 2018**), aiming to capture both high and low resilience maturity. Intel and Toyota exemplify proactive adaptation and strategic foresight, while Peloton and BASF highlight capability gaps and reactive responses. This contrast supports analytical generalisation (**Yin, 2018**) and enhances the framework's diagnostic validity.

Data sources included corporate filings, earnings calls, industry reports, and third-party analyses (**McKinsey, 2024; BCG, 2025; WTO, 2025**). Triangulation ensured construct validity (**Jick, 1979**), while cross-case comparison enabled pattern matching and theoretical saturation

(**Miles et al., 2014**). However, the methodology does not provide a detailed description of the sampling strategy or data collection procedures, which could affect reproducibility and reliability.

3.3 Diagnostic Tool Design

The TPR diagnostic tool translates the framework into a structured assessment instrument. It comprises thirty capability claims, each evaluated on a five-point Likert scale. Claims are designed to elicit evidence-based ratings, encouraging cross-functional dialogue and honest appraisal.

The diagnostic process consists of five consecutive phases inspired by strategic planning and organisational learning frameworks (**Kaplan & Norton, 2008; Senge, 1990**). First, (a) form a cross-functional team to incorporate diverse perspectives and prevent isolated assessments. Next, (b) synchronise understanding of capability definitions and scoring criteria to prevent rating inconsistencies. Then, (c) conduct structured evaluations to identify perception-reality gaps. After that, (d) prioritise capabilities for improvement based on strategic importance and feasibility. Finally, (e) create an investment roadmap and leadership recommendations that incorporate resilience into key decision-making processes.

The tool supports both baseline assessment and longitudinal tracking, enabling firms to monitor progress and recalibrate as trade policy conditions evolve. It aligns with best practices in organisational diagnostics (**Ulrich & Smallwood, 2004; Burnard & Bhamra, 2011**) and strategic foresight (**Rohrbeck et al., 2015**). Additional methodological precedents strengthen this design: quantitative performance metrics and mapping approaches (**Rangel Martínez et al., 2010; Amesfoort et al., 2012**; **Wood et al., 2019**), digital intelligence and transformation studies (**Ma et al., 2025; Phan Dang Hai et al., 2025; Viriyasitavat et al., 2025**), and open innovation research in SMEs (**Chabbouh et al., 2022**) highlight the diagnostic's adaptability across contexts. Nevertheless, the framework's dimensions and capabilities have not yet been systematically validated for reliability, raising questions about robustness.

4. Framework Description: Trade Policy Resilience (TPR)

The TPR framework is a capability-based model designed to assist firms in anticipating, absorbing, and capitalising on trade policy volatility. Developed through practice-based synthesis and validated via comparative case analysis, the framework translates strategic resilience into ten interconnected dimensions, each comprising three actionable capabilities. It operationalises dynamic capabilities theory (**Teece, 2007; Eisenhardt & Martin, 2000**) and advances resilience scholarship by linking organisational adaptation to competitive advantage amidst geopolitical uncertainty.

4.1 Conceptual Foundations

The TPR builds on the idea that resilience is strategic—allowing firms to lead through disruption rather than merely endure it (**Duchek, 2020; Ivanov, 2020**). It combines sensing, seizing, and transforming capabilities (**Teece, 2007**) with supply chain agility (**Wieland & Durach, 2021**), regulatory adaptability (**Henisz, 2016**), and stakeholder trust (**Linnenluecke, 2017**). The framework is designed for board-level use, enabling CEOs, CFOs, COOs, and risk leaders to align resilience investments with their strategic priorities.

4.2 Structure and Dimensions

The framework comprises ten dimensions that collectively define an enterprise's resilience maturity:

#	Dimension	Strategic Focus
1	Supply Chain and Sourcing Diversification	Mitigate geographic and supplier concentration risks
2	Operational & Manufacturing Flexibility	Enable production rebalancing across regions
3	Regulatory & Compliance Agility	Respond rapidly to policy shifts and export controls
4	Financial Hedging & Capital Flexibility	Protect liquidity and valuation under volatility
5	Market & Customer Diversification	Reduce revenue dependence on vulnerable markets
6	Trade Intelligence and Policy Monitoring	Anticipate disruptions through real-time intelligence
7	Partner & Ecosystem Resilience	Strengthen supplier and distributor continuity
8	Technology and Data Infrastructure Resilience	Ensure cross-border data compliance and system agility
9	Workforce Mobility and Leadership Adaptability	Maintain leadership continuity under mobility constraints
10	Reputation and Stakeholder Communication	Sustain trust through transparent disruption response

Figure 1. Ten dimensions of Trade Policy Resilience.

Sources: [Teece (2007), Ivanov (2020), Henisz (2016), and authors' field-based case-based research and synthesis].

Each dimension comprises three capability claims, advancing from basic practices to sophisticated strategic integration **(see Figure 2)**. For instance, within "*Supply Chain and Sourcing Diversification*," capabilities range from establishing multi-regional sourcing to actively evaluating supplier exposure to trade risks.

Trade Policy Resilience Dimensions	Trade Policy Resilience: Claims of Capability
1. Supply Chain & Sourcing Diversification	1a. We have multiple regional sources for key materials or inputs.
	1b. Our supplier contracts include flexibility to switch suppliers quickly.
	1c. We regularly assess supplier exposure to trade or tariff risks.
2. Operational & Manufacturing Flexibility	2a. We can shift production or service delivery between sites when trade disruptions occur.
	2.b Our operations are modular and adaptable across regions.
	2c. We maintain backup facilities or partners in alternative markets.
3. Regulatory & Compliance Agility	3a. Our compliance team actively monitors changes in trade and export regulations.
	3b. We can rapidly update processes when new reporting requirements arise.
	3c. Our compliance systems are automated and integrated with enterprise data.
4. Financial Hedging & Capital Flexibility	4a. We hedge against currency, interest rate, and commodity price volatility.
	4b. We have access to diversified sources of funding across markets.
	4c. Capital allocation decisions incorporate geopolitical and trade risks.
5. Market & Customer Diversification	5a. Our revenue base is balanced across multiple regions and customer types.
	5b. We can quickly adjust market focus when one region faces trade barriers.
	5c. We actively explore new markets to reduce overreliance on any single geography.
6. Trade Intelligence & Policy Monitoring	6a. We have a dedicated team or tool for monitoring global trade developments.
	6b. We use scenario planning to anticipate potential policy shifts.
	6c. Trade-policy updates are integrated into strategic and operational decisions.
7. Partner & Ecosystem Resilience	7a. Our key partners are evaluated for compliance and geopolitical exposure.
	7b. We have redundant partnerships in critical supply or distribution channels.
	7c. We collaborate with partners to align risk mitigation strategies.
8. Technology & Data Infrastructure Resilience	8a. Our cloud and data systems can comply with evolving cross-border data rules.
	8b. We can shift data storage or digital operations between regions as needed.
	8c. Our cybersecurity and data governance systems meet global standards.
9. Workforce Mobility & Leadership Adaptability	9a. We can sustain operations if key staff cannot travel or relocate.
	9b. We have a distributed and flexible workforce model.
	9c. Leadership teams are trained to respond effectively to trade-policy disruptions.
10. Reputation & Stakeholder Communication	10a. We communicate proactively with stakeholders during trade-related disruptions.
	10b. Our brand narrative includes commitment to transparency and continuity.
	10c. We manage perceptions effectively when prices or operations are impacted by policy changes.

Figure 2: Capability Map of the Trade Policy Resilience Framework

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4.3 Diagnostic Logic and Interdependence

The framework highlights interdependence between dimensions. A firm with diversified suppliers but weak financial hedging remains vulnerable to tariff-induced shocks. Similarly, agile compliance systems offer limited benefits without transparent communication with stakeholders. This systems-thinking approach aligns with resilience engineering (**Hollnagel et al., 2006**) and organisational design for turbulence (**Lengnick-Hall & Beck, 2005**).
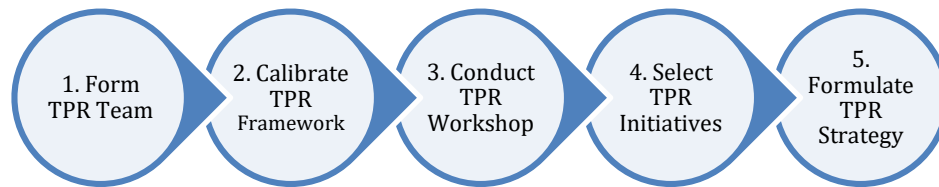

Figure 3: Diagnostic Process for TPR Assessment

To fully leverage the TRP framework's utility, a five-phase process is employed **(Figure 3).** A TPR team is established in Phase 1. Practical TPR assessment requires representation from various departments, including supply chain, manufacturing, sales, marketing, finance, legal, compliance, and corporate development. The framework is introduced, and understanding is established among the diagnostic team in Phase 2. Team members receive the complete set of thirty capability claims, each accompanied by detailed definitions and study reference cases that demonstrate high- and low-maturity examples for each dimension. Calibration prevents scoring drift where different team members apply inconsistent standards.

The assessment is executed in Phase 3. With facilitation, teams evaluate each capability claim using the rating template shown in **Figure 4**. Discussions reveal gaps between perception and reality. Marketing believes the company serves diverse markets, but supply chain data reveals revenue concentration in three countries. Finance assumes that hedging strategies cover trade risks until operations explain the exposures that remain unaddressed.

	Resilience Dimension	Claim a	Claim b	Claim c	Dimension Tally
TP Resilience Scoreboard →→	1. Supply Chain & Sourcing Diversification				
	2. Operational & Manufacturing Flexibility				
	3. Regulatory & Compliance Agility				
	4. Financial Hedging & Capital Flexibility				
	5. Market & Customer Diversification				
	6. Trade Intelligence & Policy Monitoring				
	7. Partner & Ecosystem Resilience				
	8. Technology & Data Infrastructure Resilience				
	9. Workforce Mobility & Leadership				
	10. Reputation				
	Raw Score (Tally all Points) →				X points
	TP Resilience Score (% of 150) →				Y%

Figure 4: Rating Template for Capability Claims

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The diagnostic team selects the highest impact TPR initiatives in Phase 4. Customer retention and aggressive competitive moves are at the forefront of defining an initial list of TPR Score improvement opportunities. A business case (strategic, financial, and cultural benefits) is developed. The TPR team considers the realities of implementation, externalities, leading multiple strategic initiatives, and company culture.

Assessment is translated into action in Phase 5. Leaders identify the three to five capability gaps with the most significant impact. Recommendations specify required investments, timeline expectations, and organisational changes. Senior leadership receives not just scores but a prioritised roadmap for building resilience. The process typically requires one full-day facilitated working session, accompanied by appropriate preparation and follow-up.

Leadership teams use the thirty capability claims to assess current maturity, identify gaps, and prioritise initiatives. The diagnostic tool in the following section enables structured evaluation, cross-functional dialogue, and strategic alignment. It supports both baseline assessment and longitudinal tracking, making resilience a living capability rather than a static attribute.

5. Case Analyses

To validate the TPR framework and demonstrate its practical relevance, four multinational enterprises were selected for comparative case analysis: Intel (US), Toyota (Japan), Peloton (US), and BASF (Germany) (**various company Annual Reports, n.d.).** These companies represent diverse sectors, geographies, and levels of resilience maturity, providing a comprehensive basis for analytical generalisation (**Yin, 2018**). Case data were triangulated from corporate disclosures, industry reports, and third-party analyses (**McKinsey, 2024; BCG, 2025; WTO, 2025**).

- *High TPR Maturity*: Intel demonstrates proactive trade policy resilience through geographically distributed manufacturing, integrated compliance systems, and strategic foresight. The firm's fabrication and product roadmaps are designed to accommodate export controls and tariff shifts, ensuring continuity in customer delivery and maintaining credibility in contingency planning. Trade policy monitoring is integrated into executive decision-making, aligning with dynamic sensing capabilities (**Teece, 2007**). Intel's approach reflects high maturity across multiple TPR dimensions, especially in operational flexibility, regulatory agility, and trade intelligence.

- *Regionalised Resilience*: Toyota demonstrates resilience through its regionalised production system and supplier network. Interchangeable sub-assemblies, plant-to-plant rebalancing, and disciplined supplier development enable rapid adaptation to shifting trade rules. Scenario planning and stakeholder communication are institutionalised, reinforcing trust during disruptions. Toyota's practices align with the principles of resilience engineering (**Hollnagel et al., 2006**) and the literature on supply chain agility (**Ivanov, 2020**). The firm scores highly in partner ecosystem resilience, operational flexibility, and stakeholder communication.

- *Exposure to Concentration Risk:* Peloton's pandemic-era experience showcases the effects of limited diversification and reactive logistics. Heavy dependence on a narrow supplier network and port congestion caused prolonged delays and reduced margins. The absence of flexible logistics capacity and integrated compliance systems made the firm vulnerable to fluctuations in trade and transportation. Out-of-stock situations were the norm during the COVID-19 pandemic when demand exceeded Peloton's ability to fulfil customer orders. Peloton's case illustrates a low level of maturity in supply chain diversification, financial resilience, and ecosystem robustness. It underscores the strategic cost of underinvesting in resilience capabilities. (**Sheffi, 2005; Burnard & Bhamra, 2011**).

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- ***Structural Vulnerability under Geopolitical Stress***: BASF faced compound challenges from European energy shocks and tariff-related uncertainty. The firm acknowledged its exposure in guidance and adjusted capital plans accordingly. While scale offered some buffer, the absence of multi-regional optionality and limited geopolitical pricing mechanisms constrained strategic responses. BASF's experience highlights gaps in financial hedging, market diversification, and trade intelligence. It underscores the need for integrated resilience planning across operational and financial domains (**Henisz, 2016; Duchek, 2020**).

The case analysis reveals that high TPR maturity is closely tied to strategic agility, operational continuity, and reputational strength. Intel and Toyota demonstrate how proactive resilience allows firms to set rules of engagement in volatile environments. Conversely, Peloton and BASF highlight the strategic costs of a reactive stance and capability gaps. These insights align with the dynamic capabilities literature (**Teece, 2007; Eisenhardt & Martin, 2000**) and extend it by operationalising resilience in the context of trade policy turbulence.

5.1 Cross-Case Insights

The comparative analysis reveals several patterns:

- Firms with high TPR maturity integrate resilience into strategic planning, not just operational continuity.
- Diversification across supply, markets, and partners is necessary but insufficient without intelligence and agility.
- Stakeholder trust emerges as a critical outcome of resilience, enabling premium pricing and ecosystem leadership.
- Reactive firms suffer from capability gaps that amplify disruption impact and erode customer confidence.

Case	Supply Chain	Operations	Regulatory	Finance	Customer	Intelligence	Partner	Technology	Workforce	Reputation
Intel	5	4	4	4	4	5	4	4	4	5
Toyota	5	5	3	4	5	4	5	5	4	5
Peloton	2	2	1	1	4	2	1	1	3	2
BASF	4	5	3	1	2	2	4	4	4	3

Figure 5: Summary of results from the four cases studied.
TPR capabilities were rated on a scale of 1 (low) to 5 (high).

These findings validate the framework and highlight its diagnostic importance. The TPR model enables firms to assess their maturity, identify strategic weaknesses, and focus on developing capabilities aligned with their competitive position.

6. Discussion

6.1 Strategic Implications

The TPR framework offers a strategic outlook for firms to reassess trade policy volatility — not as a disruptive external shock to be absorbed, but as a competitive factor to be utilized. Firms that

develop resilience capabilities across supply chains, compliance systems, financial structures, and stakeholder relationships are better prepared to uphold customer commitments, expand market share, and attract ecosystem partners during disruptions.

	Resilience Dimension	Claim a	Claim b	Claim c	Dimension Tally
TP Resilience Scoreboard →→	1. Supply Chain & Sourcing Diversification	**4**	**3**	**5**	**12**
	2. Operational & Manufacturing Flexibility	5	4	3	**12**
	3. Regulatory & Compliance Agility	2	3	2	**7**
	4. Financial Hedging & Capital Flexibility	1	2	2	**5**
	5. Market & Customer Diversification	3	2	1	**6**
	6. Trade Intelligence & Policy Monitoring	4	1	2	**7**
	7. Partner & Ecosystem Resilience	1	2	1	**4**
	8. Technology & Data Infrastructure Resilience	4	3	1	**8**
	9. Workforce Mobility & Leadership	2	1	1	**4**
	10. Reputation	3	4	4	**11**
	Raw Score (Tally all Points) →				76 points
	TP Resilience Score (% of 150) →				50.70%

Figure 6: TPR Diagnostic Results for an Automotive OEM

For executive leadership, the framework offers a diagnostic tool to evaluate organisational maturity, prioritise capability development, and align resilience with strategic planning. It encourages cross-functional dialogue and investment decisions that go beyond traditional risk management, positioning resilience as a source of differentiation and long-term value creation.
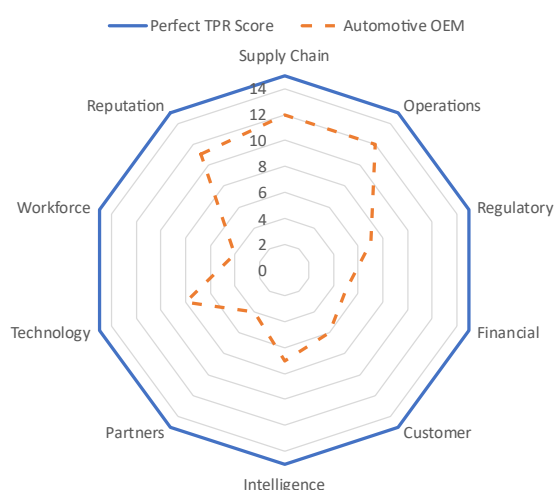

Figure 7: Radar Chart of TPR Results by Dimension

A radar chart (see **Figure 7**) excels at revealing imbalanced capability profiles. A well-prepared enterprise shows relatively consistent scores across dimensions, creating a shape that approximates the outer ring even if it falls short of perfect scores. This automotive manufacturer displays an irregular pattern indicating concentrated investments in certain areas while neglecting others.

Three dimensions show pronounced weakness: *Market & Customer Diversification, Trade Intelligence & Policy Monitoring,* and *Partner & Ecosystem Resilience.* These gaps share a common

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thread. The company invested heavily in internal operational capabilities while underinvesting in external awareness and relationship diversification. Manufacturing flexibility provides limited protection when the company lacks alternatives for customer reach or supplier networks.

Two dimensions, *Operational & Manufacturing Flexibility and Regulatory & Compliance Agility*, show relative strength. Automotive manufacturing demands both capabilities. Companies succeed by building robust quality systems and adapting production processes to local regulations. These strengths emerge from industry requirements rather than deliberate resilience planning.

The visualisation prompted difficult conversations about resource allocation. Leadership initially resisted investing in trade intelligence capabilities, viewing policy monitoring as an unnecessary expense rather than a strategic necessity. The stark visual gap between operational strength and intelligence weakness made the case for balance. The company established a dedicated, but lightweight, trade policy monitoring function and integrated policy scenarios into strategic planning cycles. Subsequent assessments showed measurable improvement in previously weak dimensions.
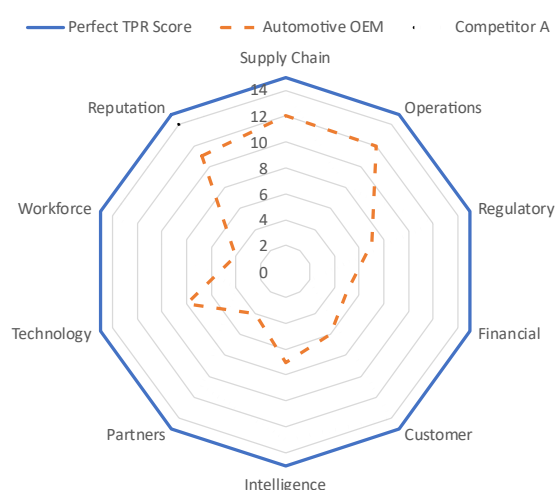

Figure 8: Strategic Integration of TPR into Competitive Positioning

Figure 8 enables organisation leaders to consider TRP within the broader framework of competitive strategy formulation. The TRP creates a competitive advantage in three ways. First, resilient enterprises maintain customer commitments during disruptions that force competitors to break promises. Consistent delivery builds trust and justifies premium pricing. Second, resilient enterprises capitalise on their competitors' vulnerabilities. When trade barriers disadvantage poorly diversified rivals, resilient companies capture market share. Third, resilient enterprises attract customers, partners, and investors who value stability and reliability.

The framework connects TPR dimensions to customer needs. Supply chain diversification matters only if it prevents customer-visible disruptions. Financial hedging is only beneficial if it sustains pricing stability that customers value. Workforce mobility matters only if it maintains service quality in light of the diplomatic problems emerging from unilateral global trade decisions. Every capability must be traceable to its impact on the customer.

Competitive analysis incorporates TPR scoring. Companies assess their own resilience and estimate the capabilities of their competitors across the ten dimensions. A competitor with a concentrated supply chain becomes vulnerable when tariffs target its source regions. A competitor with weak regulatory agility struggles when export controls tighten. Superior resilience creates windows for strategic offensive moves.

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The diagram emphasises integration over isolation. TPR diagnosis generates valuable insights, but those insights must be effectively integrated into strategic decisions about product development, market expansion, partnership selection, and capital allocation. Organisations that treat resilience as an isolated task miss opportunities. Organisations that embed resilience thinking into core strategy processes build sustainable competitive advantage.

Further utility of the TRP framework across companies, industries, and regions is demonstrated in **Figure 9(a–f).** TPR scores were derived from publicly available data and validated by two independent subject matter experts in global supply chain risk. The five global operating companies, viz. BYD Automotive (China), Tonies (Germany), Apple (United States), O'Reilly (United States), and Cisco Systems (United States) are highly affected by trade disruptions, such as supply chain issues. Each radar chart illustrates the TPR dimensions of strength and vulnerability. The results guide management in prioritizing gaps in TPR capabilities and identifying dimensions that could serve as competitive advantages. As a result, TPR capabilities have become crucial elements in competitive strategy, with benchmarks that serve as a basis for imitation and benchmarking. Cisco and Apple exemplify TPR excellence, each scoring 85%. Detailed comparative TPR results are shown below.

U.S.-based Automotive OEM: demonstrates mixed TPR capabilities. Its strengths include diversified component sourcing across North America and Asia, regulatory compliance maturity, and strong communication practices with dealers and stakeholders.
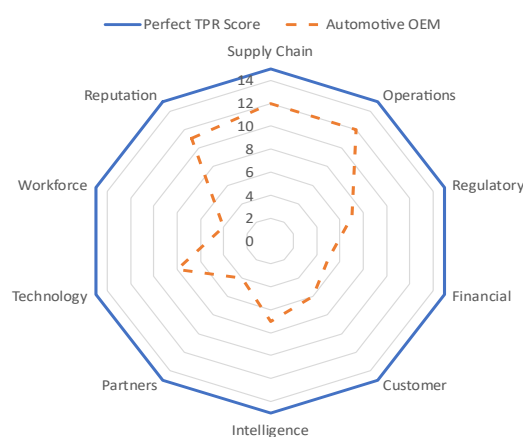

Figure 9a Radar Chart of TPR Results for an Automotive OEM [TPR = 51%]

However, reliance on single-region production for specific high-value components exposes the company to tariff surges and supply constraints. The company has begun shifting select assembly programs to Mexico and increasing inventory buffers on vulnerable components. While not yet an industry leader in resilience, it is investing in monitoring tools, supplier diversification, and flexible manufacturing, moving steadily toward a more robust and proactive posture.

BYD Automotive's (China) approach of deep vertical integration makes it one of the most protected global EV manufacturers. BYD produces batteries, motors, power electronics, and key subsystems in-house, lowering its exposure to import tariffs on intermediate goods. Vertical integration in batteries, motors, and electronics, along with expanding production outside China, helps it stay competitive even as Europe and other regions raise EV tariffs.
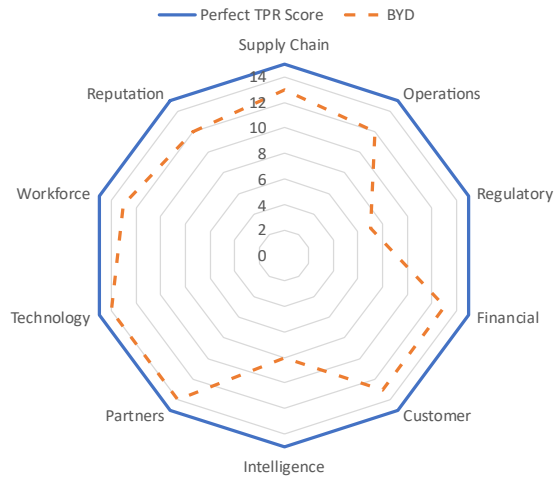
Chen, R., & Koul, S. (2025, December 1). *Strategic resilience during trade policy volatility: A capability-based framework for competitive advantage* (SSRN Scholarly Paper No. 5882145). Social Science Research Network. https://doi.org/10.2139/ssrn.5882145   Also published in: *Global Business Issues eJournal (SSRN)*

Figure 9b: Radar Chart of TPR Results for BYD Automotive [TPR = 79%]

The company is expanding its manufacturing footprint in Thailand, Brazil, and Europe, thereby mitigating the risk of EU tariff increases targeting Chinese EVs. BYD's integrated supply chain, advanced trade monitoring capabilities, and strategic global expansion enable it to absorb trade volatility while accelerating its global market share. It exemplifies how vertical control becomes a competitive advantage in a fragmented policy landscape.

Tonies (Germany), a toy manufacturer, demonstrates trade policy resilience by making swift production adjustments and carefully adjusting prices. When U.S. tariffs on Chinese goods increased, Tonies relocated its manufacturing from China to Vietnam, thereby reducing the risk of tariff changes while maintaining high product quality.
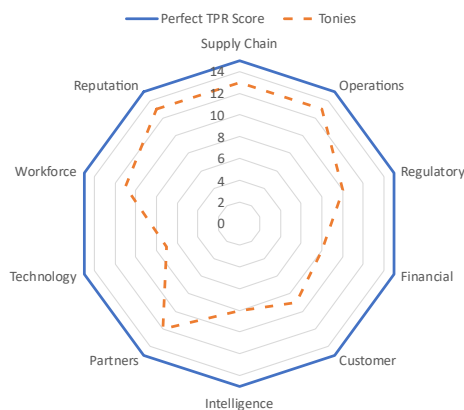

Figure 9c: Radar Chart of TPR Results for Tonies [TPR = 69%]

The company raised U.S. prices on premium figurines to protect margins without lowering demand. Tonies' flexibility stems from a diverse supplier network, strict cost management, and an agile operating model. These factors enhance its competitive edge amid global trade disruptions.

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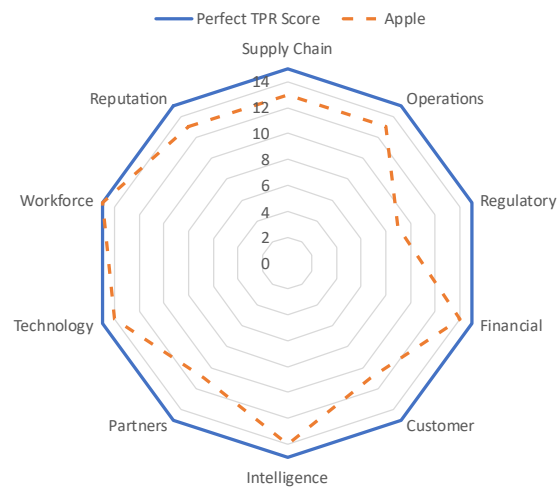
Apple (United States)

Figure 9d: Radar Chart of TPR Results for Apple [TPR = 85%]

Apple demonstrates one of the most advanced global resilience frameworks among consumer electronics companies. To reduce its reliance on China, Apple accelerated a multi-year process of shifting manufacturing to India and Vietnam, thereby mitigating geopolitical risks to iPhone and device assembly. Apple's regulatory intelligence, multi-jurisdictional compliance capabilities, and financial hedging strategies enable swift responses to tariff actions. Vertical partnerships with suppliers and long-term component agreements (including rare-earth materials) add further stability. Apple's capability to diversify supply sources, influence market expectations, and sustain its brand strength positions it at the top of trade policy resilience.

O'Reilly Automotive, an After-Market Retailer (United States)

Figure 9e: Radar Chart of TPR Results for O'Reilly [TPR = 68%]

O'Reilly Automotive demonstrates resilience through disciplined supply chain diversification and supplier health monitoring. The company sources from multiple countries, preventing overexposure to any single trade-sensitive region. Its procurement team uses structured risk scoring to identify supplier instability, enabling early intervention. O'Reilly employs diversified suppliers and formal supplier health monitoring as tools to absorb tariff shocks and reduce reliance on any single trade-exposed sourcing area. Although O'Reilly's core retail operations remain domestic, its upstream supply network is international and intentionally redundant.

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These practices help mitigate tariff shocks and ensure the availability of parts for its retail network. O'Reilly proves that even primarily domestic companies can benefit from global trade resilience strategies.
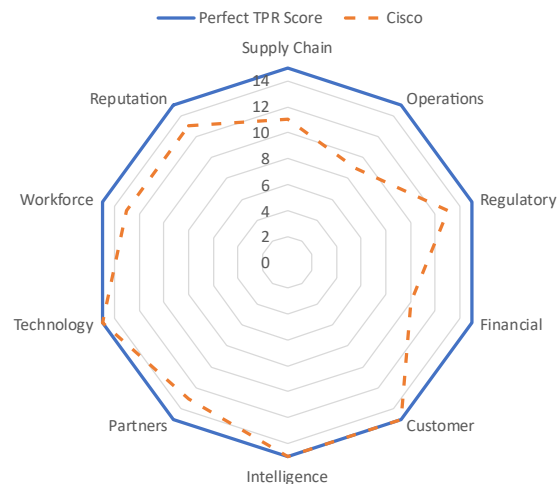
Cisco Systems

Figure 9f: Radar Chart of TPR Results for Cisco Systems [TPR = 85%]

Cisco Systems demonstrates one of the most robust global resilience profiles among U.S.-based technology companies. Its supply chain spans multiple countries across Asia, Europe, and the Americas, reducing dependency on any single manufacturing ecosystem. Cisco's operational flexibility is supported by contract manufacturing redundancy and advanced production planning systems that enable quick adjustments during tariff or regulatory disruptions.

Cisco's high level of TPR capabilities justifies decomposition to understand what is behind the numbers. Cisco excels in regulatory and compliance agility. With operations in more than 100 countries, the company maintains dedicated trade compliance teams and utilizes automated monitoring tools to track export controls, technology transfer rules, and emerging geopolitical risks. Financially, Cisco benefits from strong liquidity, diversified revenue streams, and hedging programs that buffer the impact of currency and tariff volatility.

Cisco's partner ecosystem, comprising distributors, integrators, and cloud partners, is intentionally diversified, supporting business continuity even in the face of regional disruptions. The company's technological strength, advanced data infrastructure, and global workforce adaptability further reinforce its ability to absorb and respond to trade policy shifts. Cisco's longstanding reputation for stability and transparent stakeholder communication amplifies its overall Trade Policy Resilience maturity.

The TPR framework has been applied to ten different companies in the creation, development, testing, and implementation of their products. Four for supporting the conceptualization of the framework and six companies for testing. Based in the field, the conceptualization emerged from an analysis of Intel, Toyota, Peloton, and BASF. The framework was validated in its application to five cases in addition to the Automotive OEM case. The additional five cases are BYD Automotive, Tonies, Apple, O'Reilly, and Cisco.

6.2 Theoretical Contributions

This study contributes to the literature in three ways:

Chen, R., & Koul, S. (2025, December 1). *Strategic resilience during trade policy volatility: A capability-based framework for competitive advantage* (SSRN Scholarly Paper No. 5882145). Social Science Research Network. https://doi.org/10.2139/ssrn.5882145   Also published in: *Global Business Issues eJournal (SSRN)*

1. *Framework Development*: It introduces a structured, capability-based model of trade policy resilience, grounded in practice and aligned with dynamic capabilities theory.
2. *Empirical Validation*: Through comparative case analysis, the framework's applicability across sectors and regions offers analytical generalization and diagnostic value.
3. *Strategic Integration*: It presents resilience not merely as keeping operations running but as a form of strategic foresight that links capability development to gaining a competitive advantage and fostering trust with customers.

These contributions help fill gaps in the resilience literature, which often lacks relevance at the board level and integration with strategic management concepts (**Duchek, 2020; Linnenluecke, 2017).**

6.3 Limitations

Several limitations merit consideration. First, the framework is based on practice-based synthesis and may reflect contextual biases present in consulting engagements. Second, the case analysis relies on publicly available data, which can restrict depth and overlook internal dynamics. Third, although the diagnostic tool is structured, it requires facilitation and organisational commitment, which can limit scalability. Fourth, the methodology lacks a detailed account of the sampling strategy and data collection procedures, which could impact the reproducibility and dependability of the results. Fifth, there is no explicit validation of how the framework's dimensions and capabilities were tested for reliability, raising concerns about the framework's robustness.

Future research could address these limitations through longitudinal studies, sector-specific adaptations, and integration with quantitative performance metrics. Comparative studies across emerging markets and SMEs could further validate and refine the framework. Furthermore, prioritising methodological transparency in sampling and systematic validation of diagnostic dimensions enhances reproducibility and credibility.

7. Conclusion

7.1 Summary of Contributions

This study introduced the Trade Policy Resilience (TPR) framework as a strategic response to escalating trade policy volatility. Drawing on practice-based theory building and comparative case analysis, the framework identifies ten interdependent dimensions and thirty capabilities that enable firms to anticipate, absorb, and capitalise on policy disruptions. It advances the body of literature by operationalising dynamic capabilities in the context of geopolitical uncertainty and offering a diagnostic tool for enterprise-level resilience assessment. The framework contributes to three scholarly domains:

- It extends the **dynamic capabilities view** by translating sensing, seizing, and transforming into trade-specific capabilities.
- It enriches the **strategic resilience literature** by linking resilience to competitive advantage, not just continuity.
- It addresses a gap in **global operations and trade policy research** by offering a firm-level model for navigating regulatory fragmentation and institutional turbulence.

7.2 Managerial Implications

For executive leaders, the TPR framework provides a structured approach to embedding resilience into core strategy. It enables:

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- **Diagnostic clarity**: identifying capability gaps across supply, compliance, finance, and stakeholder domains.
- **Strategic alignment**: linking resilience investments to customer trust, market access, and ecosystem leadership.
- **Cross-functional integration**: fostering collaboration between operations, finance, legal, and strategy teams.

The framework shifts resilience from a compliance function to a board-level priority, positioning it as a source of differentiation in volatile markets.

7.3 Policy and Ecosystem Relevance

Beyond the firm level, the TPR framework has implications for the design of trade policy and public-private coordination. As governments deploy tariffs, sanctions, and export controls as diplomatic instruments, firms with high TPR maturity are better equipped to maintain continuity and engage constructively with regulators. The framework can inform:

- **Policy dialogues** on private-sector preparedness and trade facilitation.
- **Industry benchmarking** for resilience standards and ecosystem health.
- **Investor assessments** of geopolitical risk exposure and adaptive capacity.

By making resilience visible and measurable, the framework supports more transparent and collaborative trade ecosystems.

7.4 Future Research Directions

This study opens several avenues for future inquiry:

- **Empirical validation**: Quantitative studies linking TPR scores to financial performance, customer retention, and market share.
- **Sectoral adaptation**: Tailoring the framework to industries with unique regulatory and operational constraints (pharmaceuticals, defence, and agritech).
- **Policy Interface**: Examining how firms use TPR capabilities to engage with trade regulators and shape policy environments.
- **Digital augmentation**: Exploring the role of AI, blockchain, and predictive analytics in enhancing trade intelligence and compliance agility.
- **Behavioural dimensions:** Investigating how leadership cognition, organisational culture, and decision-making heuristics influence resilience capability development.
- **Longitudinal studies:** Examining how firms evolve their TPR profiles over time and how resilience investments interact with broader strategic transformation.

These directions will strengthen the theoretical robustness and practical relevance of trade policy resilience as a strategic construct.

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