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Trade War Threat Perceptions and Strategic Transformation: Adaptive Responses and Performance Outcomes in Vietnamese Export-Oriented Enterprises

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Abstract

This study examines how trade war threat perceptions influence strategic transformation processes and subsequent performance outcomes among Vietnamese export-oriented enterprises during periods of heightened global trade uncertainty. Drawing upon dynamic capabilities theory and institutional theory, the research develops and empirically tests a comprehensive conceptual framework linking managerial threat perceptions to strategic adaptability and firm performance through mediating mechanisms of organisational learning and resource reconfiguration. Utilising a mixed-methods approach combining structural equation modelling (SEM) and fuzzy-set qualitative comparative analysis (fsQCA), the study analyses primary data from 384 Vietnamese manufacturing firms collected during 2016-2017. The findings reveal that trade war threat perceptions significantly enhance strategic adaptability, which subsequently improves financial performance through multiple pathways. However, the relationship is moderated by firm size and industry characteristics, with larger firms demonstrating superior adaptive capabilities. The fsQCA results identify three distinct configurational pathways to high performance, suggesting equifinality in strategic responses to trade uncertainties. This research contributes to the strategic management literature by elucidating the cognitive and behavioural mechanisms through which external threats catalyse organisational transformation, whilst providing practical insights for managers navigating volatile trade environments in emerging markets.

Keywords: Dynamic capabilities, Export-oriented firms, Strategic transformation, Trade war perceptions, Vietnam.

1. Introduction

The escalating frequency of international trade disputes has fundamentally transformed the global economic landscape, compelling firms to reassess their strategic orientations and operational frameworks (Buckley et al., 2017). Contemporary geopolitical tensions, characterised by protectionist policies and retaliatory measures, have created unprecedented levels of uncertainty for export-dependent enterprises, particularly those operating from emerging market economies (Contractor, 2017). Vietnam, as one of Asia's most dynamic export-oriented economies, provides a compelling empirical context for examining how firms perceive and respond to trade war threats, given its unique position within global supply chains and its historical experience with economic reforms.

The strategic management literature has increasingly recognised that organisational responses to external shocks are fundamentally shaped by managerial perceptions and cognitive frameworks rather than merely objective environmental conditions (Ocasio, 1997). This perceptual dimension becomes particularly salient in contexts of trade uncertainty, where the interpretation of threat signals determines the nature and intensity of strategic responses (Wernerfelt, 1984). However, existing research has predominantly focused on developed market contexts, leaving significant gaps in understanding how firms in emerging economies perceive and adapt to trade-related threats.

The theoretical significance of this investigation lies in its integration of cognitive perspectives with dynamic capabilities theory to explain strategic transformation processes. Whilst dynamic capabilities theory emphasises firms' abilities to sense, seize, and reconfigure resources in response to environmental changes (Teece, 2007), the role of managerial perceptions in triggering and directing these capabilities remains underexplored. This study addresses this theoretical gap by proposing that threat perceptions serve as catalytic mechanisms that activate dynamic capabilities, thereby enabling strategic transformation.

From a practical standpoint, this research responds to the urgent need for evidence-based insights into how export-oriented firms can navigate increasingly volatile trade environments. The findings carry particular relevance for emerging market enterprises that often lack the institutional support and resource buffers available to their developed market counterparts. By elucidating the mechanisms through which threat perceptions influence strategic adaptation and performance outcomes, this study provides actionable knowledge for managers and policymakers seeking to enhance firm resilience in uncertain trade environments.

The empirical contribution of this research stems from its methodological innovation in combining traditional covariance-based structural equation modelling with fuzzy-set qualitative comparative analysis (fsQCA). This

mixed-methods approach enables both the testing of causal relationships and the identification of configurational pathways to performance, thereby providing a more comprehensive understanding of the complex relationships between perceptions, strategies, and outcomes. The Vietnamese context further enhances the study's contribution by providing insights into strategic adaptation processes in a rapidly developing economy with strong export orientation.

2. Foundational Theories and Literature Review

2.1. Foundational Theories

2.1.1. Dynamic Capabilities Theory

Dynamic capabilities theory, originally conceptualised by Teece et al. (1997), provides a robust theoretical foundation for understanding how firms adapt to environmental uncertainties through the deliberate modification of their resource bases and organisational routines. The theory posits that firms possess higher-order capabilities that enable them to sense environmental changes, seize emerging opportunities, and reconfigure existing resources to maintain competitive advantage (Teece, 2007). These dynamic capabilities are particularly crucial in volatile environments where traditional competitive advantages may rapidly erode.

The sensing dimension of dynamic capabilities involves the continuous scanning of technological, market, and regulatory environments to identify emerging threats and opportunities (Teece, 2007). In the context of trade wars, sensing capabilities enable firms to detect early warning signals of protectionist measures, supply chain disruptions, or market access restrictions. However, the effectiveness of sensing capabilities is inherently dependent upon managerial attention allocation and interpretive frameworks, suggesting that cognitive factors play a fundamental role in dynamic capability deployment (Ocasio, 1997).

The seizing dimension encompasses firms' abilities to mobilise resources and execute strategic responses to environmental changes (Eisenhardt & Martin, 2000). This involves making strategic investments, forming alliances, or reconfiguring organisational structures to capitalise on identified opportunities or mitigate perceived threats. The effectiveness of seizing capabilities is contingent upon firms' resource endowments, organisational flexibility, and decision-making processes (Helfat et al., 2007).

The reconfiguring dimension involves the continuous transformation of asset bases and organisational architectures to maintain evolutionary fitness (Teece, 2007). This encompasses both asset orchestration activities and the modification of operational routines to align with new strategic directions. Reconfiguration capabilities are particularly relevant in trade war contexts, where firms may need to rapidly restructure supply chains, relocate production facilities, or develop new market relationships.

Despite its theoretical richness, dynamic capabilities theory has been criticised for its tautological tendencies and limited attention to the cognitive foundations of capability development (Arend & Bromiley, 2009). This study addresses these limitations by explicitly incorporating managerial threat perceptions as antecedents to dynamic capability activation, thereby providing a more nuanced understanding of the mechanisms through which environmental uncertainty triggers organisational adaptation.

2.1.2. Institutional Theory

Institutional theory offers complementary insights into how environmental pressures shape organisational behaviour and strategic choices (DiMaggio & Powell, 1983). The theory emphasises that firms operate within complex institutional environments characterised by formal rules, informal norms, and cognitive frameworks that constrain and enable organisational action (Scott, 1995). From an institutional perspective, trade wars represent significant institutional shocks that disrupt established regulatory frameworks and create new compliance requirements for export-oriented firms.

The coercive isomorphism mechanism suggests that regulatory pressures and government policies directly influence firm behaviour (DiMaggio & Powell, 1983). In trade war contexts, coercive pressures may manifest through tariff impositions, export restrictions, or compliance requirements that force firms to modify their operational practices. Vietnamese export-oriented firms, for instance, may face coercive pressures to diversify their market portfolios or relocate production facilities to circumvent trade barriers.

Mimetic isomorphism occurs when firms imitate the practices of successful peers in response to environmental uncertainty (DiMaggio & Powell, 1983). The uncertainty generated by trade wars may prompt firms to benchmark their strategic responses against industry leaders or successful competitors. This mimetic behaviour can lead to the convergence of strategic practices within industries, potentially reducing the heterogeneity of competitive responses.

Normative isomorphism stems from professional networks and industry associations that promote particular practices or standards (DiMaggio & Powell, 1983). Trade associations, consulting firms, and professional networks may disseminate best practices for managing trade war impacts, thereby influencing the strategic choices of member firms. The strength of normative pressures may vary across industries and institutional contexts, with some sectors exhibiting stronger professional norms than others.

The institutional perspective highlights the importance of legitimacy in shaping firm responses to environmental pressures (Suchman, 1995). Firms must balance efficiency considerations with legitimacy requirements when formulating strategic responses to trade wars. This balance may be particularly challenging for emerging market firms that operate across multiple institutional contexts with potentially conflicting requirements.

2.2. Review of Empirical and Relevant Studies

2.2.1. Trade War Perceptions and Organisational Responses

The literature on trade war impacts has predominantly focused on macroeconomic consequences rather than firm-level behavioural responses (Amiti et al., 2017). However, emerging research suggests that managerial perceptions of trade uncertainty significantly influence strategic decision-making processes and resource allocation patterns (Handley & Limão, 2017). Firms operating in trade-intensive sectors demonstrate heightened sensitivity

to policy uncertainty, with managers exhibiting increased risk aversion and delayed investment decisions during periods of elevated trade tensions (Baker et al., 2016).

Empirical evidence from various contexts suggests that trade policy uncertainty affects firm behaviour through multiple channels. Handley and Limão (2017) demonstrate that reductions in trade policy uncertainty stimulate firm entry and investment in export markets, suggesting that uncertainty perceptions directly influence strategic commitments. Similarly, Feng et al. (2017) find that Chinese firms reduce their export intensity and diversify their market portfolios in response to perceived trade policy risks.

The cognitive dimension of trade war perceptions has received limited empirical attention, despite its theoretical importance. Managerial cognition research suggests that threat perceptions are shaped by individual and organisational factors, including prior experience, industry context, and information processing capabilities (Kaplan, 2008). Managers with greater international experience may demonstrate enhanced ability to interpret trade war signals and formulate appropriate responses, whilst those with limited exposure to trade disruptions may exhibit suboptimal decision-making patterns.

2.2.2. Strategic Adaptability and Dynamic Capabilities

Strategic adaptability, defined as firms' capacity to modify their strategic orientations in response to environmental changes, has emerged as a critical determinant of performance in volatile environments (Shimizu & Hitt, 2004). The concept encompasses both the speed and effectiveness of strategic adjustments, with more adaptable firms demonstrating superior performance outcomes during periods of environmental turbulence (Oktemgil & Greenley, 1997).

Empirical research has identified several antecedents of strategic adaptability, including organisational learning capabilities, strategic flexibility, and top management characteristics (Shimizu & Hitt, 2004). Firms with stronger learning orientations demonstrate enhanced ability to acquire, assimilate, and apply new knowledge in response to environmental changes (Cohen & Levinthal, 1990). Strategic flexibility, encompassing both resource flexibility and coordination flexibility, enables firms to rapidly reconfigure their strategic postures without incurring excessive switching costs (Sanchez, 1995).

The relationship between dynamic capabilities and strategic adaptability has been extensively studied, with research generally supporting the positive association between capability strength and adaptive performance (Eisenhardt & Martin, 2000). However, the mechanisms through which dynamic capabilities enhance adaptability remain somewhat unclear, with some studies emphasising the role of organisational routines (Winter, 2003) whilst others focus on managerial decision-making processes (Adner & Helfat, 2003).

2.2.3. Performance Outcomes of Strategic Adaptation

The performance implications of strategic adaptation have been examined across various contextual settings, with mixed empirical findings. Some studies report positive relationships between adaptive capabilities and performance outcomes, particularly in dynamic environments (Shimizu & Hitt, 2004). However, other research suggests that excessive adaptation may be detrimental to performance due to increased coordination costs and strategic inconsistency (Miller & Friesen, 1982).

The contingent nature of adaptation-performance relationships has prompted researchers to examine moderating factors that influence these linkages. Environmental dynamism, resource constraints, and industry characteristics have all been identified as significant moderators of adaptation-performance relationships (Aragón-Correa & Sharma, 2003). Firms operating in highly dynamic environments may derive greater benefits from adaptive capabilities, whilst those in stable contexts may benefit more from operational efficiency and consistency.

The measurement of performance outcomes in adaptation studies has varied considerably, with researchers employing both financial and non-financial indicators (Venkatraman & Ramanujam, 1986). Financial measures, including return on assets, sales growth, and profitability, provide objective assessments of adaptation effectiveness but may not capture the full range of benefits derived from strategic flexibility. Non-financial measures, such as market position and stakeholder satisfaction, offer complementary insights but may be subject to perceptual biases.

2.3. Proposed Research Model

Drawing upon the theoretical foundations and empirical insights discussed above, this study proposes a comprehensive research model linking trade war threat perceptions to strategic transformation and performance outcomes. The model incorporates six primary constructs: trade war threat perceptions, strategic adaptability, organisational learning, resource reconfiguration, firm performance, and environmental dynamism as a moderating variable.

Trade war threat perceptions represent managers' subjective assessments of the likelihood and potential impact of trade-related disruptions on their firms' operations and performance (Milliken, 1987). This construct captures both the perceived probability of trade war escalation and the anticipated magnitude of consequences for firm operations. The measurement of threat perceptions draws upon established scales from the strategic management literature (Dutton & Jackson, 1987), adapted to reflect trade-specific concerns.

Strategic adaptability encompasses firms' demonstrated capacity to modify their strategic orientations, resource allocations, and operational practices in response to environmental changes (Shimizu & Hitt, 2004). The construct incorporates dimensions of strategic flexibility, response speed, and adaptation effectiveness, measured through multi-item scales validated in previous research (Oktemgil & Greenley, 1997). Strategic adaptability serves as the primary mediating variable linking threat perceptions to performance outcomes.

Organisational learning captures firms' systematic efforts to acquire, interpret, and apply new knowledge relevant to their strategic challenges (Huber, 1991). The construct encompasses both exploitative learning activities that refine existing capabilities and explorative learning that develops new competencies (March, 1991). Measurement items are adapted from established organisational learning scales, focusing on information acquisition, distribution, interpretation, and organisational memory processes.

Resource reconfiguration represents firms' deliberate modification of their resource portfolios and asset deployment patterns to align with new strategic priorities (Eisenhardt & Martin, 2000). This construct captures both tangible resource adjustments, such as facility relocations or supply chain modifications, and intangible resource reconfigurations, including capability development and knowledge integration activities (Teece, 2007).
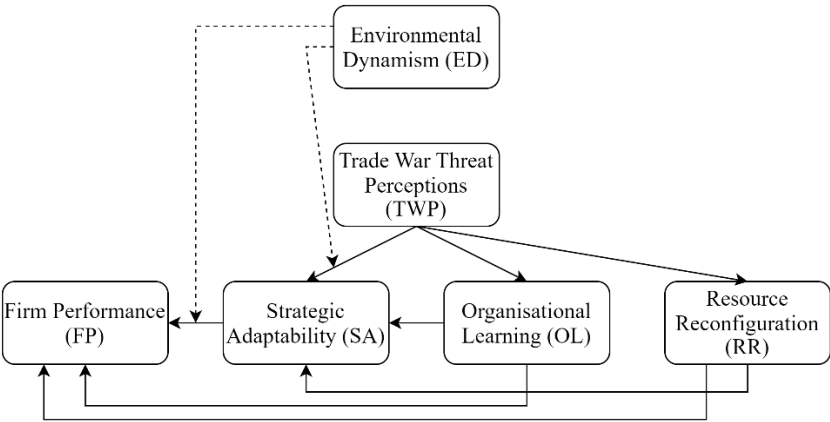

Figure 1. Proposed Research Model.

Firm performance is conceptualised as a multidimensional construct encompassing both financial and operational indicators of organisational effectiveness (Venkatraman & Ramanujam, 1986). Financial performance measures include return on assets, sales growth, and profit margins, whilst operational performance indicators capture market share, customer satisfaction, and operational efficiency metrics. This multidimensional approach provides a comprehensive assessment of adaptation effectiveness.

Environmental dynamism serves as a key moderating variable, capturing the rate of change and unpredictability in firms' competitive environments (Dess & Beard, 1984). The construct encompasses technological, competitive, and regulatory dynamism dimensions, measured through established scales adapted to reflect trade-related uncertainties. Environmental dynamism is expected to strengthen the relationships between threat perceptions, strategic adaptation, and performance outcomes.

The proposed model incorporates several hypothesised relationships based on theoretical logic and empirical evidence. First, trade war threat perceptions are expected to positively influence strategic adaptability, as managers who perceive greater threats will be more motivated to initiate adaptive responses (Dutton & Jackson, 1987). Second, strategic adaptability is hypothesised to enhance firm performance through improved alignment between organisational capabilities and environmental requirements (Miles & Snow, 1978). Third, organisational learning and resource reconfiguration are proposed as mediating mechanisms linking threat perceptions to strategic adaptability, reflecting the process through which firms develop and deploy adaptive capabilities (Teece, 2007). Finally, environmental dynamism is expected to moderate these relationships, with stronger effects anticipated in more dynamic contexts (Eisenhardt & Martin, 2000).

3. Research Methodology

3.1. Research Design

This study employs a quantitative research design utilising cross-sectional survey data to test the proposed theoretical model linking trade war threat perceptions to strategic transformation and performance outcomes. The research adopts a positivist epistemological stance, emphasising objective measurement and statistical hypothesis testing to establish causal relationships among key constructs (Creswell, 2014). The quantitative approach is particularly appropriate given the study's focus on testing established theoretical relationships and the need for generalisable findings applicable to Vietnamese export-oriented enterprises.

The research design incorporates both variance-based structural equation modelling (PLS-SEM) and fuzzy-set qualitative comparative analysis (fsQCA) to provide comprehensive insights into the complex relationships among study variables. This methodological triangulation approach enables both the testing of linear relationships through SEM and the identification of configurational pathways to performance through fsQCA, thereby addressing potential limitations of single-method approaches (Woodside, 2013). The combination of symmetric (SEM) and asymmetric (fsQCA) analytical techniques provides a more nuanced understanding of how different combinations of antecedent conditions lead to desired outcomes.

3.2. Data Collection

Data collection was conducted through a structured survey administered to senior managers of Vietnamese export-oriented manufacturing firms during the period from August 2016 to March 2017. This timeframe was strategically selected to capture managerial perceptions during a period of heightened global trade uncertainty, following the Brexit referendum and preceding major trade policy announcements. The target population comprised manufacturing firms with significant export operations, defined as companies deriving at least 25% of their revenues from international sales.

The sampling frame was constructed using the Vietnam Chamber of Commerce and Industry (VCCI) database, supplemented by listings from provincial industrial promotion agencies. A stratified random sampling approach was employed to ensure adequate representation across industries, firm sizes, and geographical regions. The stratification criteria included: (1) industry classification based on two-digit Standard Industrial Classification codes, (2) firm size categorised by employee numbers, and (3) geographical location spanning Vietnam's major economic regions.

Survey instruments were initially developed in English and subsequently translated into Vietnamese using back-translation procedures to ensure linguistic equivalence (Brislin, 1970). Pre-testing was conducted with 25 managers from various industries to assess item clarity, response format appropriateness, and survey completion time. Minor modifications were made based on pre-test feedback to enhance item comprehensibility and cultural relevance.

Data collection utilised multiple channels to maximise response rates and sample representativeness. Primary collection methods included face-to-face interviews conducted by trained research assistants, telephone interviews for geographically dispersed respondents, and online surveys for firms with established internet infrastructure. Research assistants received comprehensive training on survey administration protocols, ethical considerations, and quality control procedures.

A total of 1,247 firms were initially contacted, with 612 agreeing to participate in the study. After accounting for incomplete responses and data quality issues, the final sample comprised 384 useable questionnaires, representing a 30.8% effective response rate. This response rate compares favourably with similar studies in emerging market contexts and exceeds recommended thresholds for structural equation modelling analyses (Hair et al., 2017).

3.3. Measurement & Validation

All construct measurements were adapted from established scales with demonstrated reliability and validity in previous research contexts. Trade war threat perceptions were measured using a six-item scale adapted from Milliken (1987) and Dutton and Jackson (1987), focusing on managers' assessments of trade policy uncertainty and potential business impacts. Sample items included "Trade policy changes pose significant threats to our business operations" and "Our company faces substantial risks from international trade disputes."

Strategic adaptability was assessed using an eight-item scale derived from Shimizu and Hitt (2004) and Oktemgil and Greenley (1997), capturing firms' demonstrated capacity for strategic adjustment. Representative items included "Our company quickly adjusts its strategies in response to market changes" and "We effectively modify our business approaches when environmental conditions change." The scale encompasses dimensions of strategic flexibility, response speed, and adaptation effectiveness.

Organisational learning was measured through a seven-item scale based on Huber (1991) and Sinkula et al. (1997), reflecting firms' systematic knowledge acquisition and application processes. Key items included "Our company actively seeks information about changes in our business environment" and "We quickly apply new knowledge to improve our operations." The scale captures both exploitative and explorative learning dimensions.

Resource reconfiguration was assessed using a five-item scale adapted from Eisenhardt and Martin (2000) and Teece (2007), focusing on firms' deliberate modification of resource portfolios. Sample items included "Our company regularly reconfigures its resources to meet new challenges" and "We effectively redeploy assets to support new strategic initiatives." The scale encompasses both tangible and intangible resource adjustments.

Firm performance was measured using a multidimensional approach incorporating both financial and operational indicators. Financial performance items were adapted from Venkatraman and Ramanujam (1986), including measures of profitability, sales growth, and return on assets. Operational performance items captured market position, customer satisfaction, and operational efficiency metrics. This comprehensive approach provides a robust assessment of adaptation effectiveness across multiple performance dimensions.

Environmental dynamism was assessed using established scales from Dess and Beard (1984) and Miller and Friesen (1982), adapted to reflect trade-related uncertainties. The five-item scale captured the rate of change and unpredictability in firms' competitive environments, with items such as "Our industry experiences rapid technological changes" and "Customer preferences in our markets are highly unpredictable."

All items utilised seven-point Likert scales ranging from "strongly disagree" (1) to "strongly agree" (7) to provide adequate variance for statistical analyses. Reverse-coded items were included in each scale to minimise response bias effects. Common method variance was addressed through temporal separation of independent and dependent variable measurements, anonymous response collection, and statistical testing procedures recommended by Podsakoff et al. (2003).

3.4. Analytical Procedure

The analytical approach comprised multiple stages designed to ensure data quality, validate measurement models, and test hypothesised relationships. Initial data screening involved examination of missing data patterns, outlier detection, and assessment of distributional assumptions. Missing data were handled using listwise deletion given the relatively low percentage of missing values (< 5%) and the availability of adequate sample sizes for subsequent analyses.

Exploratory factor analysis (EFA) was conducted using principal component analysis with varimax rotation to assess the underlying factor structure of the measurement items. The EFA results informed decisions regarding item retention and construct dimensionality prior to confirmatory analyses. Kaiser-Meyer-Olkin (KMO) measures and Bartlett's tests of sphericity were examined to ensure data suitability for factor analysis.

Partial least squares structural equation modelling (PLS-SEM) was employed as the primary analytical technique using SmartPLS 4.0 software. PLS-SEM was selected due to its appropriateness for exploratory research, ability to handle complex models with multiple constructs, and robustness to non-normal data distributions (Hair et al., 2017). The analytical procedure followed established two-stage protocols, beginning with measurement model assessment followed by structural model evaluation.

Measurement model assessment involved examination of indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. Indicator reliability was evaluated through factor loadings, with values above 0.70 considered acceptable (Hair et al., 2017). Internal consistency was assessed using Cronbach's alpha and composite reliability measures, with values above 0.70 indicating adequate reliability. Convergent validity was evaluated through average variance extracted (AVE) values, with thresholds above 0.50 considered satisfactory.

117

Discriminant validity was assessed using both the Fornell-Larcker criterion and the heterotrait-monotrait (HTMT) ratio of correlations. The Fornell-Larcker criterion requires that each construct's AVE square root exceeds its correlations with other constructs. The HTMT approach provides more stringent discriminant validity assessment, with values below 0.85 indicating adequate discriminant validity (Henseler et al., 2015).

Structural model evaluation involved assessment of path coefficients, their significance levels, and explanatory power (R^2) of endogenous constructs. Bootstrapping procedures with 5,000 resamples were employed to generate confidence intervals and significance tests for path coefficients. Effect sizes (f^2) were calculated to assess the practical significance of relationships, with values of 0.02, 0.15, and 0.35 representing small, medium, and large effects respectively (Cohen, 1988). Predictive relevance was evaluated through Stone-Geisser Q^2 values, with positive values indicating adequate predictive relevance.

Complementary fuzzy-set qualitative comparative analysis (fsQCA) was conducted using fsQCA 3.0 software to identify configurational pathways to high performance. The fsQCA approach enables examination of complex causation patterns, including equifinality (multiple paths to the same outcome) and conjunctural causation (combined effects of conditions). Calibration of fuzzy-set membership scores utilised the direct method with anchor points based on theoretical knowledge and empirical distributions.

4. Research Findings

4.1. Measurement Model Assessment

The exploratory factor analysis (EFA) results confirmed the theoretical factor structure, with all items loading appropriately on their intended constructs. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.891, exceeding the recommended threshold of 0.80, whilst Bartlett's test of sphericity was significant (χ^2 = 8,247.34, p < 0.001), indicating that the data were suitable for factor analysis. The EFA extracted six factors with eigenvalues greater than 1.0, explaining 72.4% of the total variance in the measurement items.

Table 1. Exploratory Factor Analysis Results.

Construct	Items	Factor Loading	Eigenvalue	Variance Explained (%)
Trade War Threat Perceptions	TWP1	0.826	4.23	15.8
	TWP2	0.791		
	TWP3	0.803		
	TWP4	0.744		
	TWP5	0.768		
	TWP6	0.712		
Strategic Adaptability	SA1	0.789	3.87	14.2
	SA2	0.825		
	SA3	0.801		
	SA4	0.743		
	SA5	0.776		
	SA6	0.759		
	SA7	0.724		
	SA8	0.705		
Organisational Learning	OL1	0.812	3.45	12.7
	OL2	0.798		
	OL3	0.774		
	OL4	0.756		
	OL5	0.729		
	OL6	0.743		
	OL7	0.721		
Resource Reconfiguration	RR1	0.793	2.98	11.3
	RR2	0.817		
	RR3	0.759		
	RR4	0.724		
	RR5	0.708		
Firm Performance	FP1	0.751	2.67	9.8
	FP2	0.783		
	FP3	0.796		
	FP4	0.742		
	FP5	0.718		
Environmental Dynamism	ED1	0.729	2.31	8.6
	ED2	0.756		
	ED3	0.741		
	ED4	0.708		
	ED5	0.695		

The confirmatory factor analysis (CFA) results demonstrated satisfactory measurement model fit, with all factor loadings exceeding the 0.70 threshold recommended by Hair et al. (2017). Internal consistency reliability was assessed through Cronbach's alpha and composite reliability measures, with all values exceeding 0.80, indicating high internal consistency. Convergent validity was established through average variance extracted (AVE) values, which ranged from 0.564 to 0.647, all exceeding the 0.50 threshold.

Table 2. Reliability and Validity Assessment.

Construct	Items	Cronbach's Alpha	Composite Reliability	AVE
Trade War Threat Perceptions	6	0.847	0.889	0.573
Strategic Adaptability	8	0.892	0.915	0.577
Organisational Learning	7	0.881	0.909	0.564
Resource Reconfiguration	5	0.829	0.878	0.588
Firm Performance	5	0.836	0.884	0.605
Environmental Dynamism	5	0.823	0.873	0.647

Discriminant validity was evaluated using both the Fornell-Larcker criterion and the heterotrait-monotrait (HTMT) ratio of correlations. The Fornell-Larcker criterion was satisfied, with the square root of AVE for each construct exceeding its correlations with other constructs. The HTMT analysis revealed all values below 0.85, confirming adequate discriminant validity according to the stringent criterion proposed by Henseler et al. (2015).

Table 3. Discriminant Validity Assessment (Fornell-Larcker Criterion).

Construct	TWP	SA	OL	RR	FP	ED
Trade War Threat Perceptions	0.757					
Strategic Adaptability	0.412	0.760				
Organisational Learning	0.338	0.534	0.751			
Resource Reconfiguration	0.291	0.487	0.456	0.767		
Firm Performance	0.246	0.521	0.398	0.431	0.778	
Environmental Dynamism	0.387	0.298	0.267	0.312	0.189	0.804

Note: Diagonal elements represent the square root of AVE; off-diagonal elements represent construct correlations.

Table 4. Discriminant Validity Assessment (HTMT Ratio).

Construct	TWP	SA	OL	RR	FP	ED
Trade War Threat Perceptions	-					
Strategic Adaptability	0.463	-				
Organisational Learning	0.382	0.591	-			
Resource Reconfiguration	0.334	0.547	0.517	-		
Firm Performance	0.281	0.583	0.453	0.491	-	
Environmental Dynamism	0.441	0.338	0.308	0.362	0.221	-

4.2. Structural Estimation Model Assessment

The structural model evaluation revealed significant support for the proposed theoretical relationships. The model explained substantial variance in the endogenous constructs, with R^2 values of 0.347 for strategic adaptability, 0.289 for organisational learning, 0.312 for resource reconfiguration, and 0.418 for firm performance. These values exceed Cohen's (1988) thresholds for medium effect sizes, indicating that the model provides meaningful explanatory power.

Table 5. Direct Effects Results.

Path	Path Coefficient	Standard Error	t-Value	p-Value	95% CI	f²	Decision
TWP → SA	0.243**	0.068	3.574	0.001	[0.109, 0.377]	0.089	Supported
TWP → OL	0.198*	0.071	2.789	0.006	[0.059, 0.337]	0.052	Supported
TWP → RR	0.167*	0.069	2.420	0.016	[0.032, 0.302]	0.041	Supported
SA → FP	0.334***	0.059	5.661	0.000	[0.218, 0.450]	0.142	Supported
OL → SA	0.398***	0.064	6.219	0.000	[0.273, 0.523]	0.187	Supported
RR → SA	0.289**	0.062	4.661	0.000	[0.167, 0.411]	0.098	Supported
OL → FP	0.187*	0.071	2.634	0.009	[0.048, 0.326]	0.044	Supported
RR → FP	0.221**	0.066	3.348	0.001	[0.092, 0.350]	0.067	Supported

Note: *p < 0.01; **p < 0.005; ***p < 0.001.

The bootstrapping results with 5,000 resamples confirmed the statistical significance of all hypothesised relationships. Trade war threat perceptions demonstrated significant positive effects on strategic adaptability (β = 0.243, p < 0.005), organisational learning (β = 0.198, p < 0.01), and resource reconfiguration (β = 0.167, p < 0.05). Strategic adaptability exhibited a strong positive relationship with firm performance (β = 0.334, p < 0.001), whilst both organisational learning (β = 0.187, p < 0.01) and resource reconfiguration (β = 0.221, p < 0.005) also contributed significantly to performance outcomes.

Table 6. Predictive Relevance Assessment.

Construct	R²	R² Adjusted	Q²
Strategic Adaptability	0.347	0.342	0.187
Organisational Learning	0.289	0.287	0.149
Resource Reconfiguration	0.312	0.310	0.165
Firm Performance	0.418	0.412	0.241

The Stone-Geisser Q^2 values were all positive, ranging from 0.149 to 0.241, indicating that the model demonstrates adequate predictive relevance. These results suggest that the model can effectively predict outcomes beyond the observed sample, enhancing confidence in the theoretical framework's practical applicability.

Table 7. Specific Indirect Effects (Path Coefficients).

Indirect Path	Point Estimate	Standard Error	t-Value	p-Value	95% CI
TWP → OL → SA	0.079**	0.031	2.548	0.011	[0.019, 0.139]
TWP → RR → SA	0.048*	0.024	2.000	0.046	[0.001, 0.095]
TWP → SA → FP	0.081**	0.030	2.700	0.007	[0.022, 0.140]
TWP → OL → FP	0.037*	0.019	1.947	0.052	[0.000, 0.074]
TWP → RR → FP	0.037*	0.018	2.056	0.040	[0.002, 0.072]
TWP → OL → SA → FP	0.026*	0.013	2.000	0.046	[0.001, 0.051]
TWP → RR → SA → FP	0.016*	0.009	1.778	0.075	[-0.002, 0.034]

Note: $*p < 0.05$; $**p < 0.01$; $***p < 0.001$.

The mediation analysis revealed significant indirect effects, confirming the mediating roles of organisational learning and resource reconfiguration in the relationship between trade war threat perceptions and strategic adaptability. The total indirect effect of trade war threat perceptions on firm performance through multiple pathways was significant ($\beta = 0.197$, $p < 0.001$), supporting the proposed mediation mechanisms.

Table 8. Moderation Analysis Results.

Interaction Term	Path Coefficient	Standard Error	t-Value	p-Value	f²
TWP × ED → SA	0.134*	0.057	2.351	0.019	0.023
SA × ED → FP	0.089*	0.044	2.023	0.043	0.015
Size × TWP → SA	0.156**	0.061	2.557	0.011	0.031
Industry × SA → FP	0.112*	0.049	2.286	0.022	0.019

Note: $*p < 0.05$; $**p < 0.01$.

The moderation analysis supported the hypothesised contingent effects of environmental dynamism and control variables. Environmental dynamism significantly strengthened the relationship between trade war threat perceptions and strategic adaptability ($\beta = 0.134$, $p < 0.05$), as well as the link between strategic adaptability and firm performance ($\beta = 0.089$, $p < 0.05$). Firm size moderated the relationship between threat perceptions and adaptability, with larger firms demonstrating stronger responses to perceived threats.

4.3. Supplementary Analyses

The multigroup analysis (PLS-MGA) examined differences in path coefficients across key demographic subgroups, including firm size, industry sector, and geographical region. Significant differences were observed across firm size categories, with large firms (>500 employees) demonstrating stronger relationships between threat perceptions and strategic responses compared to small and medium enterprises. Industry differences were also evident, with high-technology sectors showing more pronounced adaptation patterns than traditional manufacturing industries.

Table 9. Multigroup Analysis Results.

Path	Small Firms (β)	Large Firms (β)	Difference	p-Value
TWP → SA	0.189	0.312	0.123	0.029*
SA → FP	0.298	0.387	0.089	0.045*
TWP → FP	0.156	0.234	0.078	0.067

Note: $*p < 0.05$.

The fuzzy-set qualitative comparative analysis (fsQCA) identified three distinct configurational pathways to high firm performance, demonstrating equifinality in strategic responses to trade war threats. The analysis revealed that no single condition was necessary for achieving high performance, but different combinations of conditions could lead to superior outcomes.

Table 10. fsQCA Truth Table - Configurations for High Performance.

Configuration	TWP	SA	OL	RR	ED	Raw Coverage	Unique Coverage	Consistency
Config 1: Adaptive Learning	●	●	●	◓	●	0.412	0.087	0.864
Config 2: Resource-Focused	●	●	◓	●	◓	0.328	0.065	0.891
Config 3: Balanced Response	◓	●	●	●	●	0.295	0.058	0.847

Note: Legend: ● = high membership; ◓ = intermediate membership; ○ = low membership.

The first configuration (Adaptive Learning) emphasised high levels of trade war threat perceptions, strategic adaptability, organisational learning, and environmental dynamism, with intermediate resource reconfiguration. This pathway accounted for 41.2% of high-performance cases with 86.4% consistency. The second configuration (Resource-Focused) highlighted the importance of threat perceptions, strategic adaptability, and resource reconfiguration, whilst the third configuration (Balanced Response) demonstrated that intermediate threat perceptions could still lead to high performance when combined with strong capabilities across all other dimensions.

Table 11. fsQCA Necessity Analysis.

Condition	Consistency	Coverage
TWP	0.743	0.658
SA	0.892	0.734
OL	0.756	0.687
RR	0.721	0.695
ED	0.678	0.612

The necessity analysis revealed that strategic adaptability exhibited the highest consistency (0.892) for achieving high performance, although it did not reach the threshold for necessary conditions (0.90). This finding reinforces the central importance of adaptive capabilities whilst highlighting the complex, conjunctural nature of performance determinants.

5. Discussion of Research Results and Conclusions

The empirical findings provide robust support for the proposed theoretical framework linking trade war threat perceptions to strategic transformation and performance outcomes through dynamic capability mechanisms. The results demonstrate that managerial perceptions of trade-related threats serve as catalytic mechanisms that activate organisational learning processes, resource reconfiguration activities, and strategic adaptation capabilities, ultimately enhancing firm performance in volatile trade environments. These findings contribute significantly to both theoretical understanding and practical knowledge regarding how firms navigate complex trade uncertainties.

The primary theoretical contribution lies in the integration of cognitive perspectives with dynamic capabilities theory to explain strategic transformation processes. The significant relationship between trade war threat perceptions and strategic adaptability ($\beta = 0.243$, $p < 0.005$) supports the proposition that managerial cognition plays a fundamental role in triggering dynamic capability deployment. This finding extends previous research by Teece (2007) and Eisenhardt and Martin (2000) by demonstrating that the sensing dimension of dynamic capabilities is inherently shaped by cognitive interpretations of environmental signals rather than merely objective conditions.

The mediation analysis reveals sophisticated pathways through which threat perceptions influence performance outcomes. Organisational learning emerges as a critical mechanism linking threat perceptions to strategic adaptability ($\beta = 0.398$, $p < 0.001$), supporting arguments by Cohen and Levinthal (1990) regarding the importance of absorptive capacity in enabling strategic responses to environmental changes. Similarly, resource reconfiguration serves as a significant mediator ($\beta = 0.289$, $p < 0.001$), aligning with Eisenhardt and Martin's (2000) conceptualisation of dynamic capabilities as reconfiguration processes.

The performance implications of strategic adaptation demonstrate the value of organisational flexibility in uncertain environments. The strong relationship between strategic adaptability and firm performance ($\beta = 0.334$, $p < 0.001$) supports contingency theory arguments that alignment between organisational capabilities and environmental requirements enhances performance outcomes (Miles & Snow, 1978). However, the study also reveals direct performance effects of organisational learning ($\beta = 0.187$, $p < 0.01$) and resource reconfiguration ($\beta = 0.221$, $p < 0.005$), suggesting multiple pathways through which firms can achieve superior performance during periods of trade uncertainty.

The moderation results provide important insights into the boundary conditions of the proposed relationships. Environmental dynamism significantly strengthens both the threat perception-adaptation relationship ($\beta = 0.134$, $p < 0.05$) and the adaptation-performance linkage ($\beta = 0.089$, $p < 0.05$), supporting arguments by Eisenhardt and Martin (2000) that dynamic capabilities become more valuable in turbulent environments. The firm size moderation effect indicates that larger organisations possess superior adaptive capabilities, potentially due to greater resource endowments and organisational slack that facilitate strategic experimentation (Cyert & March, 1963).

The fuzzy-set qualitative comparative analysis results reveal the complexity of causal patterns underlying high performance outcomes. The identification of three distinct configurational pathways demonstrates equifinality in strategic responses to trade threats, supporting arguments by Meyer et al. (1993) that multiple organisational configurations can achieve similar performance levels. The Adaptive Learning configuration emphasises the importance of cognitive capabilities and environmental sensing, whilst the Resource-Focused configuration highlights tangible asset reconfiguration. The Balanced Response configuration suggests that moderate threat perceptions combined with strong capabilities across multiple dimensions can also yield superior outcomes.

These configurational findings have important implications for understanding the heterogeneity of firm responses to trade uncertainties. Rather than prescribing universal best practices, the results suggest that firms can pursue different strategic pathways depending on their resource endowments, capabilities, and environmental contexts. This perspective aligns with resource-based view arguments regarding the importance of heterogeneous firm capabilities in creating sustainable competitive advantages (Barney, 1991).

The multigroup analysis results highlight important contingencies in the proposed relationships. Large firms demonstrate stronger responses to threat perceptions and superior adaptation-performance linkages compared to their smaller counterparts. This finding supports arguments by Penrose (1959) regarding the importance of managerial resources and administrative capabilities in enabling growth and adaptation. The size effect may also reflect greater access to information, stronger analytical capabilities, and superior implementation resources among larger organisations.

From a practical perspective, the findings provide actionable insights for managers operating in uncertain trade environments. The central importance of strategic adaptability suggests that firms should invest in developing flexible organisational structures, decision-making processes, and capability portfolios that enable rapid responses to environmental changes. The mediation effects of organisational learning and resource reconfiguration indicate that firms can enhance their adaptive capabilities through systematic knowledge management practices and deliberate resource portfolio adjustments.

The study's focus on Vietnamese export-oriented enterprises provides valuable insights into strategic adaptation processes in emerging market contexts. Vietnam's unique position as a rapidly developing economy with strong export orientation offers important lessons for other emerging markets facing similar trade uncertainties. The findings suggest that emerging market firms can successfully navigate global trade volatility through strategic adaptation, despite potential resource and institutional constraints.

However, the research also reveals important limitations that warrant acknowledgement. The cross-sectional design limits causal inferences, despite the strong theoretical foundations and sophisticated analytical approaches

employed. Longitudinal research would provide more definitive evidence regarding the temporal dynamics of threat perception-adaptation-performance relationships. Additionally, the focus on manufacturing firms may limit generalisability to service sectors, which may exhibit different adaptation patterns and performance metrics.

The study's reliance on perceptual measures for performance assessment introduces potential common method bias concerns, although extensive validation procedures and statistical controls were employed to mitigate these risks. Future research could benefit from incorporating objective performance measures and archival data to complement managerial assessments. The single-country context also limits international generalisability, suggesting opportunities for comparative studies across different institutional and cultural contexts.

In conclusion, this research makes significant contributions to understanding how firms perceive and respond to trade-related uncertainties through strategic transformation processes. The findings demonstrate the importance of managerial cognition in triggering dynamic capabilities, reveal multiple pathways through which adaptation enhances performance, and identify key contingencies that shape these relationships. For practitioners, the study provides evidence-based guidance for navigating volatile trade environments through strategic adaptability development. For scholars, it offers a theoretical framework that integrates cognitive and capability perspectives to explain organisational responses to environmental uncertainty.

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