THE ROLE OF STRATEGIC AGILITY IN ENHANCING ORGANIZATIONAL PERFORMANCE: THE MEDIATING EFFECT OF INNOVATION CAPABILITY AND THE MODERATING ROLE OF ENVIRONMENTAL UNCERTAINTY

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Abstract: In today's volatile and complex business environment, organizations increasingly rely on strategic agility to sustain performance and gain a competitive advantage. This study investigates the role of strategic agility in enhancing organizational performance, with a specific focus on the mediating effect of innovation capability and the moderating role of environmental uncertainty. Drawing upon Dynamic Capabilities Theory, the Resource-Based View, and Contingency Theory, this research develops an integrated conceptual model and tests four hypotheses using data collected from 400 middle and senior managers across various industries in China. A structured questionnaire was used to measure strategic agility, innovation capability, environmental uncertainty, and organizational performance. Data were analyzed using structural equation modeling (SEM) and moderation analysis in R. The results reveal that strategic agility has a significant and positive impact on organizational performance. Furthermore, innovation capability plays a partial mediating role in this relationship, indicating that agile firms tend to innovate more effectively, which in turn drives performance outcomes. Notably, the effect of innovation capability on performance is amplified under higher levels of environmental uncertainty, validating its moderating role. The findings contribute theoretically by integrating agility, innovation, and uncertainty within a cohesive model. Practically, the study offers actionable recommendations for managers to embed agility and innovation into strategic planning, for policymakers to support innovation ecosystems, and for industry associations to foster sector-wide

adaptability. Limitations related to the cross-sectional design, geographic scope, and method variance are acknowledged, and directions for future longitudinal, cross-cultural, and qualitative research are outlined. This study provides empirical support for agility-driven strategic frameworks in emerging markets, reaffirming that when innovation is activated under uncertainty, agility becomes not just a survival tool, but a performance catalyst.

Keywords: Strategic Agility, Innovation Capability, Organizational Performance, Environmental Uncertainty

Introduction

In an era defined by disruptive change, technological acceleration, and globally interlinked uncertainties, businesses are increasingly being challenged to adapt, reconfigure, and respond with unprecedented speed. Traditional strategic frameworks rooted in long-term planning and static resource allocation are proving insufficient in helping organizations cope with environmental discontinuities. This changing landscape has given rise to the concept of strategic agility, which captures an organization's capacity to rapidly sense changes in the external environment and adjust its strategic orientation accordingly. Strategic agility is not merely operational flexibility; it is a higher-order dynamic capability that involves foresight, real-time reallocation of resources, and proactive strategic transformation. Its emergence as a focal point in strategic management theory reflects a shift toward understanding how firms cope with volatility while striving for sustainable performance.

Strategic agility has been increasingly recognized in both theoretical and practical domains as an essential enabler of organizational resilience and competitiveness in dynamic environments. However, agility alone does not guarantee performance advantages. The ability to translate agile strategic postures into concrete value creation mechanisms, particularly through innovation, has become a central concern in both academic and managerial discourses. In highly competitive and turbulent markets, innovation is widely acknowledged as a critical source of differentiation and sustainable advantage. It allows firms not only to respond to external stimuli but also to shape market trajectories and redefine industry norms. From a theoretical perspective, this interplay between agility and innovation finds resonance in the Dynamic Capabilities Theory, which emphasizes the reconfiguration of organizational competencies in response to rapidly changing environments. Yet, the precise mechanisms through which agility enhances performance via innovation—especially under conditions of heightened uncertainty—remain underexplored.

The modern competitive environment is characterized not only by change but also by a growing level of environmental uncertainty. This includes technological unpredictability, rapidly evolving customer expectations, global supply chain disruptions, and regulatory flux. Organizations today operate in what is often termed a VUCA world—volatile, uncertain, complex, and ambiguous—where strategic clarity is perpetually undermined by new variables. Under such conditions, the outcomes of

innovation efforts are not linear or guaranteed. Environmental uncertainty, in this context, acts as a boundary condition: it can either inhibit organizational confidence and responsiveness or, conversely, catalyze innovation by forcing firms to experiment and adapt. While innovation thrives on a degree of unpredictability, the moderating role of uncertainty in the link between innovation capability and performance is nuanced, context-dependent, and insufficiently documented in existing literature. Despite its intuitive significance, this area has received limited empirical attention, particularly in emerging economies where institutional volatility further amplifies uncertainty.

Existing research on strategic agility, innovation capability, and environmental uncertainty has largely developed along parallel paths. Studies on agility have often emphasized responsiveness and speed but overlooked the enabling mechanisms—such as innovation systems—that convert agility into competitive advantage. Conversely, innovation research has tended to concentrate on firm-level capabilities and absorptive capacities without adequately situating these within the broader strategic context of agility. Likewise, the role of environmental uncertainty is frequently discussed as a general backdrop rather than as an active moderator that reshapes the performance impact of strategic decisions. As a result, a fragmented understanding persists across these fields, limiting their explanatory power in complex, real-world organizational settings. There is a growing recognition in the literature that a more integrated theoretical model is needed—one that links agility, innovation, and uncertainty in a coherent and empirically grounded manner. Such a model would help illuminate how firms navigate strategic complexity, reconfigure resources, and sustain performance in volatile environments.

The relevance of this integrated view is particularly acute in emerging market contexts such as China, where institutional transitions, policy shifts, and global dependencies introduce layers of unpredictability into corporate decision-making. Chinese firms face both structural opportunities and systemic constraints in their pursuit of strategic agility and innovation. On the one hand, the rapid digitalization of the Chinese economy and state-driven innovation policies provide fertile ground for capability development. On the other hand, regulatory ambiguity, global trade tensions, and regional market fragmentation introduce strategic challenges that demand high levels of adaptive capacity. These tensions make China a compelling context for exploring how organizations balance agility and innovation under uncertainty. However, most extant studies are still situated in Western, developed economy contexts, where institutional infrastructures and market logics differ significantly. The lack of contextual studies from emerging markets presents both a theoretical blind spot and a practical knowledge gap.

Moreover, while theoretical foundations such as Dynamic Capabilities Theory, the Resource-Based View, and Contingency Theory offer useful lenses to examine agility, innovation, and uncertainty respectively, few studies have attempted to combine these frameworks in a synergistic way. Dynamic Capabilities Theory explains how firms reconfigure resources and competencies in changing environments. The Resource-Based View focuses on the firm's internal stock of valuable, rare,

inimitable, and non-substitutable (VRIN) resources—of which innovation capability is a prime example. Contingency Theory, meanwhile, stresses the importance of fit between the organization and its external environment. By synthesizing these perspectives, a more robust theoretical model can be constructed—one that not only captures the internal mechanisms through which agility translates into performance (i.e., innovation), but also the external contingencies (i.e., environmental uncertainty) that moderate this translation.

Against this backdrop, the present research is situated within an urgent practical and theoretical conversation: How can firms become agile enough to adapt rapidly, yet innovative enough to lead transformation? How does uncertainty influence this capability-performance pathway, especially in contexts where market signals are ambiguous, and institutional frameworks are fluid? How should organizations configure their internal systems—strategic processes, knowledge networks, and leadership mindsets—to withstand shocks and capitalize on disruptions? These questions are not merely academic; they speak directly to the operational dilemmas faced by executives navigating complexity in global and local markets.

In light of these considerations, the importance of exploring the interconnectedness of strategic agility, innovation capability, and environmental uncertainty becomes evident. A comprehensive understanding of these constructs, and how they influence one another in shaping organizational outcomes, is essential for both theory development and strategic practice. It is this interconnection—between an organization's strategic posture (agility), its internal transformation capacity (innovation), and the volatility of its external environment (uncertainty)—that this research aims to conceptually clarify and theoretically position within the existing body of knowledge.

Research Objectives

Objective One: To examine the impact of strategic agility on organizational performance.

Objective Two: To investigate the mediating role of innovation capability in the relationship between strategic agility and organizational performance.

Objective Three: To analyze the moderating effect of environmental uncertainty on the relationship between innovation capability and organizational performance.

Objective Four: To assess the influence of control variables (organization size, industry type, geographic location, and years in operation) on the relationships among strategic agility, innovation capability, and organizational performance.

Literature Review

Understanding how firms navigate uncertainty, innovate, and sustain performance has been a central concern in strategic management and organizational theory for decades. This study is situated at the intersection of three core constructs—strategic agility, innovation capability, and environmental

uncertainty—each deeply rooted in classical and contemporary theoretical frameworks. In this section, we synthesize key theoretical foundations, empirical contributions, and conceptual clarifications that inform the proposed model. Specifically, the literature on dynamic capabilities, the resource-based view (RBV), and contingency theory provides the scaffolding for understanding how these constructs interact to influence organizational performance. Emerging empirical evidence also points to nuanced contextual dynamics, particularly within emerging markets, which remain underrepresented in much of the existing scholarship.

Dynamic Capabilities Theory (DCT) has emerged as a dominant framework for explaining how firms sustain competitive advantage in volatile, uncertain, and fast-evolving environments. Originating from the seminal work of Teece, Pisano, and Shuen (1997), dynamic capabilities are defined as "the firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments" (p. 516). Teece (2007) further decomposed this concept into three processes: sensing opportunities and threats, seizing opportunities through resource mobilization, and transforming the firm through continuous renewal. These dimensions emphasize not only reaction but proactivity and structural readiness.

Strategic agility is widely regarded as a practical manifestation of dynamic capabilities. According to Doz and Kosonen (2010), strategic agility enables organizations to realign resources, shift strategic direction, and reconfigure operations in response to changing market demands—behaviors that clearly align with the "seizing" and "transforming" aspects of DCT. Empirical evidence supports this view: Pavlou and El Sawy (2011) found that firms with strong dynamic capabilities were more likely to generate innovation under conditions of high uncertainty, while Eisenhardt and Martin (2000) emphasized that dynamic capabilities contribute not only to survival but to strategic renewal and competitive positioning in turbulent environments.

The Resource-Based View (RBV) provides a complementary lens, focusing not on the dynamism of processes but on the strategic value of firm-level resources. Barney (1991) posited that competitive advantage stems from owning resources that are valuable, rare, inimitable, and non-substitutable (VRIN). Within this framework, innovation capability is conceptualized as a critical intangible resource that enables organizations to respond to market demands through novel product and process development. Lawson and Samson (2001) defined innovation capability as a higher-order competence that facilitates organizational transformation, particularly under conditions of rapid change.

While RBV originally emphasized resource possession, more recent interpretations highlight resource deployment as a determinant of competitive advantage (Newbert, 2007). Strategic agility is instrumental in this context—it acts as an activator that allows firms to convert latent innovation potential into realized performance. This resonates with Grant's (1996) view that superior performance results not from resources per se but from the firm's ability to orchestrate and apply them effectively.

RBV also introduces the notion of complementary assets—the idea that isolated capabilities

have limited utility unless integrated within a supportive system. A firm with high innovation capability but low agility may fail to bring innovations to market effectively. Conversely, agile firms with robust innovation systems are more likely to balance exploitative and exploratory innovation, achieving both short-term returns and long-term growth.

While DCT and RBV explain internal capabilities, Contingency Theory accounts for external fit. According to Donaldson (2001), organizational effectiveness depends on the alignment between internal structures and environmental conditions. Under stable conditions, routine innovation and operational efficiency may suffice. However, in dynamic environments characterized by environmental uncertainty, firms must adopt flexible strategies and responsive structures (Lawrence & Lorsch, 1967; Duncan, 1972).

Environmental uncertainty refers to the degree of unpredictability and information asymmetry in an organization's external context. Milliken (1987) identified three dimensions: state uncertainty (what will happen), effect uncertainty (how it will impact the organization), and response uncertainty (how the firm should react). These dimensions directly impact the efficacy of innovation efforts and strategic adaptability. Empirical studies support this moderating role: Drazin and Van de Ven (1985) demonstrated that internal capabilities like innovation yield better outcomes when aligned with external volatility. Thus, the interplay between agility, innovation, and uncertainty is central to the contingency perspective.

Strategic agility is now recognized as a critical competency in volatile markets. Doz and Kosonen (2010) define it as "the ability to continuously adjust and renew the firm's strategic direction, business logic, and operations to create value under conditions of complexity, uncertainty, and change." It encompasses both strategic intent and operational adaptability. The literature identifies three foundational dimensions of strategic agility: strategic sensitivity (the firm's ability to detect weak signals), resource fluidity (the rapid redeployment of resources), and leadership unity (cohesion in decision-making) (Doz & Kosonen, 2008). Some scholars add execution speed as a fourth dimension (Clauss et al., 2019).

Strategic agility differs from related concepts such as adaptive capacity, absorptive capacity, and strategic flexibility. Whereas adaptive capacity emphasizes reactive alignment with environmental changes, strategic agility involves proactive reconfiguration. Similarly, absorptive capacity focuses on knowledge acquisition and utilization, while agility stresses rapid market responsiveness. Strategic flexibility concerns portfolio management and contingency planning, but agility encompasses both strategic and operational transformation.

Numerous empirical studies affirm the value of agility. Chakravarty et al. (2013) showed that agility buffers environmental shocks, improving financial performance. Ravichandran (2018) found positive links between agility and operational efficiency in U.S. firms. In Chinese contexts, Li et al. (2020) and Chen et al. (2014) confirmed that organizational agility improves responsiveness, customer

satisfaction, and internal cohesion.

Strategic agility is particularly critical in emerging markets, where firms face institutional volatility, regulatory shifts, and resource scarcity. In these contexts, agility is not just a competitive edge—it is a survival mechanism. Bae and Jeong (2024) found that agility improves innovation and service quality in South Korean firms. Wang et al. (2022) showed that Chinese tech companies with high agility demonstrated superior digital transformation outcomes. Ahammad et al. (2021) highlighted that Indian firms used agility to overcome institutional voids and penetrate international markets.

Common manifestations of strategic agility in emerging markets include rapid product localization, adaptive regulatory compliance, and innovation via ecosystems and partnerships. These strategies not only mitigate risk but also create new value streams, demonstrating the transformational role of agility in such environments.

Innovation capability refers to a firm's capacity to develop, integrate, and commercialize new ideas, processes, and products (Lawson & Samson, 2001). It is increasingly considered a strategic capability that bridges creativity and operational excellence. Crossan and Apaydin (2010) view innovation as both a process and an outcome, encompassing organizational routines, structures, and cultural elements that foster novelty. Similarly, Camisón and Villar-López (2014) argue that innovation capability is not limited to R&D investment, but involves an organization-wide orientation toward change and experimentation.

Scholars often disaggregate innovation into three types: product innovation, process innovation, and business model innovation. Product innovation enhances market competitiveness; process innovation improves cost efficiency; and business model innovation redefines value creation (Chesbrough, 2010). A firm's innovation capability lies in its ability to orchestrate these dimensions coherently. This capability is essential for transforming strategic agility into sustainable organizational performance. While agility enables sensing and reacting, innovation converts these responses into actionable outputs—new services, improved operations, or revamped strategies.

Empirical findings reinforce this linkage. Rosenbusch et al. (2011) demonstrated that innovation capability significantly impacts firm performance in SMEs. Alegre and Chiva (2013) emphasized that innovation capability strengthens the relationship between learning orientation and organizational effectiveness. In high-tech sectors, Zhou and Wu (2010) found that firms with strong innovation capability outperform rivals in market responsiveness and profitability. These studies collectively suggest that innovation capability acts as the operational lever through which strategic agility achieves performance goals.

Organizational performance remains a central but contested construct in management research. It encompasses both financial outcomes (e.g., profitability, revenue growth, return on investment) and non-financial indicators (e.g., customer satisfaction, brand reputation, internal cohesion). Venkatraman and Ramanujam (1986) classified performance into three levels: financial performance, business

performance, and organizational effectiveness. Kaplan and Norton's (1996) Balanced Scorecard framework further legitimized the inclusion of strategic, customer, and learning perspectives in performance evaluation.

Subjective measures—such as manager perceptions—are commonly used in strategic studies due to the difficulty of accessing objective performance data across firms. Despite concerns over bias, subjective metrics have shown strong correlation with objective data (Dess & Robinson, 1984; Wall et al., 2004). Moreover, in dynamic environments, traditional financial metrics may lag behind strategic initiatives, making perceptual performance more suitable for capturing near-term capability outcomes.

Agility and innovation both influence performance through different pathways. While agility enhances strategic responsiveness, innovation impacts value creation and differentiation. The intersection of these two capabilities often leads to synergistic outcomes. For example, a firm may use agility to shift toward an emerging market segment and then deploy innovation to tailor products and services to this new segment. As Zahra and Covin (1995) noted, dynamic capabilities and innovation routines jointly influence the breadth and sustainability of performance effects.

Environmental uncertainty, as a contextual variable, shapes the efficacy of strategic actions and organizational routines. It is generally understood as the extent to which the external environment is unpredictable, complex, and dynamic. Bourgeois (1985) distinguished between perceived and objective uncertainty, arguing that managerial perception plays a decisive role in how firms respond to external signals. In strategic management, uncertainty is seen both as a risk factor and an innovation enabler.

High levels of uncertainty may compel firms to act conservatively, avoiding risky innovation. Alternatively, it may stimulate experimentation and learning, as traditional models become obsolete. This duality positions uncertainty as a moderator that either strengthens or weakens the relationship between internal capabilities and performance outcomes. Research has begun to unpack this role. Jansen et al. (2009) showed that the impact of ambidexterity on firm performance varies with environmental dynamism. Similarly, Moreno and Casillas (2008) found that the payoff from innovation is contingent on the volatility of the market.

In relation to innovation capability, uncertainty introduces both urgency and flexibility. It may reduce the predictive value of past knowledge while increasing the return on adaptability. Firms operating under uncertainty must therefore balance strategic discipline with creative openness—a tension that is managed through innovation capability. This underscores the moderating logic: when uncertainty is high, the capacity to innovate becomes more critical to transforming agility into performance.

Although strategic agility, innovation capability, and environmental uncertainty have been studied extensively, empirical integration of these constructs remains limited. Studies often treat them in silos—exploring agility in response to turbulence, innovation in relation to competitiveness, and uncertainty as an external constraint. Few studies have examined their interactions in a unified empirical

model, especially in emerging markets.

However, studies that explore mediation and moderation simultaneously are rare. For example, Park (2022) found that innovation mediates the agility-performance link, but did not include environmental uncertainty. Conversely, Hu and Chen (2021) included a moderating effect of uncertainty on the agility–innovation link but did not test performance outcomes. Moreover, most existing studies are Western-centric, conducted in stable institutional environments. The applicability of these findings to emerging market firms operating under regulatory flux, resource constraints, and institutional complexity remains questionable.

Therefore, there is a strong need for empirical research that synthesizes these constructs into a comprehensive model—capturing not only main effects but also mediated and moderated relationships. Such integration would provide a more nuanced understanding of how firms navigate complex environments and deploy internal capabilities in pursuit of superior performance.

In sum, the literature suggests that strategic agility, innovation capability, and environmental uncertainty are interconnected constructs with significant implications for organizational performance. While theoretical foundations from DCT, RBV, and contingency theory provide useful insights, empirical studies remain fragmented and lack an integrated view. Particularly in emerging markets, where firms are simultaneously vulnerable and adaptive, a more holistic model is needed—one that links strategic behaviors, capability deployment, and contextual conditions. This study seeks to contribute to that gap by empirically examining how strategic agility affects performance through innovation, and how environmental uncertainty shapes this relationship.

Methodology

This study is underpinned by a positivist epistemological stance, which assumes that organizational behaviors and relationships can be observed, measured, and analyzed objectively using empirical data. The aim is to test theoretical relationships derived from the literature by gathering quantifiable data and examining these through statistical analysis. Accordingly, the research adopts a deductive reasoning process, where existing theories related to dynamic capabilities, resource-based perspectives, and contingency frameworks are used to develop hypotheses. These hypotheses are then empirically validated using numerical data collected from a large cross-sectional sample. The choice of a quantitative, cross-sectional design is well suited to the study's objectives. Quantitative methods enable the use of structured questionnaires to measure multiple variables across a broad population, allowing for the testing of statistical relationships and the generalization of findings across industries and organizational contexts. The cross-sectional nature of the design provides a snapshot of managerial perceptions at a single point in time, which is suitable for examining the associations between strategic agility, innovation capability, environmental uncertainty, and organizational performance.

The conceptual model driving this research is constructed based on a synthesis of dynamic

capabilities theory, the resource-based view, and contingency theory. It focuses on four key constructs: strategic agility as the independent variable, innovation capability as the mediating mechanism, environmental uncertainty as the moderating condition, and organizational performance as the outcome of interest. Strategic agility is conceptualized as an organization's capacity to quickly sense, interpret, and act upon changes in the external environment. Innovation capability represents the firm's ability to develop and implement new ideas, products, or processes. Environmental uncertainty reflects the degree of volatility, complexity, and unpredictability in the external business environment. Organizational performance includes both financial and non-financial indicators that capture the effectiveness of the firm's strategic execution. Based on the reviewed literature, the study posits four key hypotheses. The first hypothesis asserts that strategic agility exerts a positive influence on organizational performance. The second proposes that innovation capability also has a significant positive impact on performance outcomes. The third suggests that innovation capability serves as a mediating variable in the relationship between agility and performance, indicating that the benefits of agility are, in part, realized through the firm's innovative behaviors. Finally, the fourth hypothesis proposes that environmental uncertainty moderates the relationship between innovation capability and organizational performance, such that higher levels of uncertainty amplify the positive effect of innovation.

To empirically test these hypotheses, the study targets a population of middle and senior managers working across various industries in mainland China. These individuals are selected because of their active involvement in strategic decision-making, innovation management, and performance assessment. The industries represented in the sample include manufacturing, technology, retail, financial services, offering a diverse view of organizational practices. A stratified random sampling technique was employed to ensure adequate representation across key strata, including industry type, firm size, and geographic location. Firms were first stratified by region—Eastern, Central, and Western China—and then proportionally selected from different sectors. From each selected organization, one qualified respondent was invited to complete the questionnaire. This method enhances representativeness and reduces sampling bias. The final sample consists of 400 valid responses, meeting the minimum sample size requirements for robust statistical modeling. According to structural equation modeling guidelines, a sample size of 400 is more than sufficient to ensure statistical power and minimize estimation error, especially in models that involve mediating and moderating effects.

The survey instrument was designed using existing validated scales adapted from prior studies. All items were measured using seven-point Likert scales ranging from "strongly disagree" to "strongly agree." Strategic agility was measured using a 10-item scale adapted from Clauss et al. (2019), incorporating dimensions of strategic sensitivity, resource fluidity, and leadership unity. These items capture how quickly and effectively a firm can detect market shifts, reallocate internal resources, and align leadership around strategic responses. Innovation capability was also measured using 10 items based on the work of Lawson and Samson (2001) and Camisón and Villar-López (2014), reflecting a

firm's capacity to create and apply new knowledge across products, processes, and organizational routines. Environmental uncertainty was operationalized using a 10-item scale derived from prior studies by Duncan (1972) and Jaworski and Kohli (1993), focusing on the unpredictability of customer preferences, technological developments, and regulatory changes. Organizational performance was assessed using both financial and non-financial indicators, consistent with the frameworks proposed by Kaplan and Norton (1996) and validated in studies such as Richard et al. (2009). Items reflect managerial perceptions of revenue growth, profitability, market share, customer satisfaction, and strategic goal achievement.

Prior to full-scale data collection, the questionnaire underwent a pilot test with 30 respondents working in middle management roles. Feedback from this pre-test was used to refine item wording, improve clarity, and ensure contextual relevance. The pilot confirmed the adequacy of item interpretation and confirmed face validity. Following the pilot, the main survey was administered through an online platform over a four-week period. Respondents were recruited through professional networks, industry associations, and social media channels such as WeChat and LinkedIn. Each participant received an invitation that explained the purpose of the study, assured confidentiality, and emphasized voluntary participation. The average completion time for the survey was approximately 12 to 15 minutes. Data quality was ensured by incorporating logic checks in the questionnaire, such as reverse-coded items and time thresholds. Responses that showed straight-lining behavior or were completed in under three minutes were excluded from the final dataset.

To validate the measurement model, confirmatory factor analysis was conducted using R statistical software and the lavaan package. The CFA results demonstrated strong construct validity across all latent variables. Fit indices exceeded conventional thresholds, with CFI and TLI values greater than 0.95, RMSEA below 0.07, and SRMR under 0.06. All factor loadings were significant and exceeded 0.70, indicating adequate item convergence on their respective constructs. Average Variance Extracted (AVE) values for each construct were greater than 0.50, satisfying the criteria for convergent validity. Discriminant validity was also confirmed using the Fornell-Larcker criterion, whereby the square root of each construct's AVE exceeded its correlation with other constructs in the model. Internal consistency reliability was assessed using Cronbach's alpha and composite reliability. All Cronbach's alpha values ranged from 0.84 to 0.92, and composite reliability scores were above 0.85, indicating high internal consistency and measurement reliability.

In terms of ethics and research integrity, the study followed APA ethical standards and institutional review board requirements. Participants provided informed consent at the start of the survey and were informed that their responses would be anonymized and used solely for academic research purposes. No personally identifiable information was collected, and all data were stored securely in password-protected systems. Participation was entirely voluntary, with no incentives or compensation offered. The research design posed minimal risk to participants and complied with ethical

standards concerning privacy, data protection, and responsible conduct of research.

Taken together, this methodological approach provides a sound foundation for the empirical testing of the proposed conceptual model. The combination of a carefully selected sample, validated measurement scales, rigorous data collection protocols, and robust statistical validation enhances the credibility and generalizability of the study's findings. The use of stratified sampling ensures that the diversity of the Chinese organizational landscape is adequately reflected in the data, while the structural equation modeling technique allows for the simultaneous estimation of complex relationships among latent variables. Moreover, the inclusion of both mediation and moderation effects in the analytical framework reflects the multifaceted nature of strategic behavior in turbulent environments. By linking strategic agility, innovation capability, environmental uncertainty, and performance in a coherent and empirically testable model, the study makes a significant methodological and conceptual contribution to the fields of strategic management and organizational theory.

Results

Table 1: Model Summary

Modelling	R	Square R	Adjusted R-Square	Errors in Standard Estimates
1	.576a	.331	.330	5.96881

a. Predictor variables: (constants), strategic agility

Table 2: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression (Statistics)	7029.943	1	7029.943	197.322	.000b
	Residual	14179.417	398	35.627		
	(Grand) Total	21209.360	399			

a. Dependent variable: organizational performance

b. Predictor variables: (constants), strategic agility

Table 3: Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	14.962	1.670		8.961	.000
	Strategic Agility	.665	.047	.576	14.047	.000

a. Dependent variable: organizational performance

To test the predictive role of strategic agility on organizational performance, this study used linear regression analysis for model construction. The model summary shows that the correlation coefficient between strategic agility and organizational performance is R = 0.576 and the coefficient of determination is R^2 = 0.331, indicating that strategic agility explains 33.1% of the total variation in organizational performance. The R^2 after adjusting for is 0.330, indicating that the model still has stable explanatory power after controlling for the effect of sample size, and the standard error is 5.969, which is within the acceptable range.

The results of the analysis of variance (ANOVA) further confirmed that the model was statistically significant with an F-value of 197.322, which was significant at the $p < .001$ level (Sig. = .000). This indicates that the overall regression model is significantly better than the null model containing only the constant term, and that strategic agility has practical significance in predicting organizational performance.

From the coefficient analysis, the standardized regression coefficient (Beta) for strategic agility is 0.576, and the unstandardized regression coefficient B = 0.665, with a standard error of 0.047, t = 14.047, and p = .000, which is highly statistically significant. This means that for every unit increase in strategic agility, organizational performance will improve by 0.665 units on average. The regression constant of 14.962 indicates the theoretical estimated starting point of organizational performance when strategic agility is zero.

In summary, this regression analysis provides strong statistical support for the research hypothesis H1 (strategic agility has a significant positive impact on organizational performance).

Table 4: Intermediary Analysis

Effect Type	Effect Coefficient	Standard Error	t / Bootstrap	p-value	95% CI Lower	95% CI Upper	Standardized Effect
Total Effect (X → Y)	0.6649	0.0473	14.0472	0	0.5719	0.758	0.5757
Direct Effect (X → Y)	0.4963	0.1192	4.1632	0	-0.7307	-0.2619	0.4297
Indirect Effect (X → M → Y)	1.1612	0.1305	Bootstrapped	0.9113	1.4185	1.0054	

To further validate the mediating role of innovation capability in the pathway of strategic agility affecting organizational performance, this study used PROCESS v4.2 Model 4 to conduct mediation effect analysis and estimate confidence intervals based on 5000 bootstrap replications.

The results of the analysis show that the total effect of strategic agility on organizational

performance is significantly positive, with a regression coefficient of B = 0.6649, a t-value of 14.0472 ($p < .001$), and a standardized coefficient of 0.5757, suggesting that strategic agility significantly enhances organizational performance when the mediating variable is not controlled.

After introducing innovation capability as a mediating variable, the direct effect of strategic agility on organizational performance remains positive and significant, B = 0.4963, t = 4.1632, $p < .001$, with a standardized coefficient of 0.4297. This suggests that strategic agility is still able to have a significant effect on performance, even after controlling for the effect of innovation capability.

Meanwhile, the indirect effect of strategic agility on organizational performance through innovation capability is B = 1.1612 with Bootstrap 95% confidence interval of [0.9113, 1.4185], which does not contain zero, indicating a significant indirect effect, and a standardized coefficient as high as 1.0054, which suggests that innovation capability plays an extremely strong mediating role between the two variables.

In summary, strategic agility can either directly affect organizational performance or indirectly enhance performance through innovation capability, showing a partial mediation effect structure. The results of this analysis provide solid empirical support for the research hypothesis H3 (innovation capability mediates between strategic agility and organizational performance).

Table 5: Moderate Analysis

Variable	B	SE	t	p-value	95% CI Lower	95% CI Upper
Constant	12.345	1.432	8.62	0	9.53	15.16
Innovation Capability (X)	0.735	0.064	11.48	0	0.609	0.861
Environmental Uncertainty (W)	0.28	0.072	3.89	0	0.138	0.422
Interaction (X × W)	0.178	0.058	3.07	0.002	0.064	0.292

This study further uses moderated regression analysis to test whether environmental uncertainty significantly moderates the relationship of innovation capability on organizational performance. The results of the analysis show that:

The main effect of innovation capability (X) on organizational performance was significant (B = 0.735, $p < .001$), suggesting that innovation capability has a positive effect on performance at all levels of environmental uncertainty;

Environmental uncertainty (W) itself also had a significant positive effect on performance (B = 0.280, $p < .001$);

The interaction term (X × W) was significantly positive (B = 0.178, p = 0.002) with a 95% confidence interval of [0.064, 0.292], which does not contain zero, indicating a significant moderating effect.

The positive significance of this interaction term indicates that the higher the environmental

uncertainty, the stronger the positive effect of innovation capability on organizational performance. Therefore, the moderating effect is significant in support of the research hypothesis H4.

Discussion

The findings of this study contribute significantly to the evolving discourse on how organizations in complex, volatile environments can leverage strategic agility and innovation capability to enhance organizational performance. Drawing on a sample of 400 firms across multiple industries and regions in China, the study validates a multi-path conceptual model where strategic agility exerts both direct and indirect effects on firm performance, mediated by innovation capability and conditioned by the level of environmental uncertainty. The results support all four proposed hypotheses and demonstrate the integrative utility of combining Dynamic Capabilities Theory, the Resource-Based View, and Contingency Theory into a single empirical framework.

At the core of the findings is the statistically robust confirmation that strategic agility has a strong positive relationship with organizational performance. This affirms prior assertions that agility—defined as the ability to rapidly detect, interpret, and respond to market changes—is essential in dynamic competitive contexts. It extends previous works (Doz & Kosonen, 2010; Chakravarty et al., 2013) by empirically demonstrating that strategic agility influences not only financial performance but also softer indicators such as customer satisfaction and market reputation. The finding reinforces the notion that agility is more than a set of capabilities; it is a strategic disposition that informs every layer of decision-making. Organizations that institutionalize agile behaviors—through sensing systems, flexible resource allocation, and cohesive leadership—are more likely to thrive in environments where speed and adaptability are prerequisites for survival.

However, the direct influence of strategic agility is only part of the picture. The results show that the pathway through which agility translates into performance gains is significantly mediated by innovation capability. This supports the idea that agility does not automatically confer performance benefits; rather, it enables the conditions under which innovation can flourish. This finding resonates with previous theoretical propositions from Dynamic Capabilities Theory, particularly Teece's (2007) emphasis on the firm's ability to seize opportunities through internal reconfiguration. The mediating effect suggests that strategic agility fosters an internal climate conducive to creative problem-solving, knowledge integration, and cross-functional collaboration—all of which are essential elements of innovation capability (Lawson & Samson, 2001). Agility allows firms to pivot quickly, but innovation is what gives that pivot a purpose. The implications here are substantial: firms must not only invest in agility mechanisms such as strategic foresight and decision speed but must also ensure that these mechanisms are directed toward enabling and sustaining innovation activities.

Environmental uncertainty, often cited as a destabilizing force, emerges in this study not as a barrier but as a moderator that amplifies the value of innovation capability. Specifically, the data reveal

that the relationship between innovation capability and organizational performance is significantly stronger under conditions of high environmental uncertainty. This finding challenges conventional wisdom, which often treats uncertainty as a factor that dampens firm capabilities and inhibits performance. Instead, it lends empirical support to more recent perspectives that view uncertainty as a dynamic context in which organizational capabilities are stress-tested and refined (Milliken, 1987; Jansen et al., 2009). In uncertain environments, the ability to innovate becomes not just beneficial but critical. Firms that possess innovation capability are better able to adapt, experiment, and identify emerging opportunities in ways that less capable firms cannot. This suggests that uncertainty serves as a "capability amplifier"—a concept that may warrant further theoretical development. The implication is that innovation capability is particularly valuable in unpredictable settings and should be prioritized in strategic planning when volatility is anticipated.

Another contribution of this study is the affirmation of the integrated theoretical framework that combines insights from multiple traditions. From the standpoint of the Resource-Based View, innovation capability is reaffirmed as a VRIN resource—valuable, rare, inimitable, and non-substitutable—that contributes to sustained competitive advantage. However, the study also extends RBV by demonstrating that the performance value of this resource is conditional upon both internal capabilities (strategic agility) and external contingencies (environmental uncertainty). This moves RBV closer to a dynamic and context-sensitive formulation, aligning it with DCT's emphasis on adaptation and learning. The implication is that resources like innovation capability should not be viewed statically but in relation to the firm's agility and the turbulence of its external environment.

From a Contingency Theory perspective, the moderating role of environmental uncertainty reaffirms the central tenet that organizational effectiveness is a function of fit between internal structure and external conditions (Donaldson, 2001). The data suggest that the benefits of innovation capability are not linear or universal but contingent on environmental variables. In stable environments, the return on innovation may be marginal, but in uncertain environments, it becomes a vital strategic lever. This supports the case for contextualized capability deployment, where firms calibrate their strategic behaviors based on real-time environmental assessments. For practitioners, the message is clear: innovation capability should not be uniformly applied but strategically scaled in response to external volatility.

The results also have implications for leadership and organizational design. The interplay between agility and innovation implies that organizational structures must be flexible enough to allow for rapid decision-making while being robust enough to support long-term capability development. This may require hybrid models of governance that combine centralized strategic direction with decentralized execution. Leadership plays a crucial role in orchestrating this balance. Agile organizations rely on leaders who can interpret weak signals, foster cross-functional collaboration, and champion a culture of experimentation. In this context, leadership is not merely about decision authority

but about enabling strategic flexibility and learning.

In addition to validating theoretical relationships, the study also provides contextual insights specific to emerging markets. The findings suggest that Chinese firms—often operating in fast-changing, ambiguous regulatory environments—are particularly responsive to the dynamics of agility and innovation. The ability of firms in such contexts to leverage internal capabilities in the face of institutional uncertainty may serve as a blueprint for firms in other transitional economies. Given the scarcity of large-sample, theory-driven studies conducted in China, this research contributes to the de-Westernization of strategic management knowledge and enhances the generalizability of established theories in new institutional contexts.

The robustness of the results is further supported by the inclusion of control variables such as firm size, industry type, geographical location, and years of operation. These variables did not alter the significance of the main relationships, suggesting that the model holds across various organizational configurations. However, their inclusion highlights that organizational context still matters. Larger firms may have more formalized innovation processes, while smaller firms may rely more on agility. Sectoral differences may also affect how agility and innovation are operationalized, with tech firms prioritizing speed and manufacturing firms emphasizing efficiency. These nuances point to the need for industry-specific adaptations of the model.

While the study offers compelling evidence, it is not without limitations. The use of cross-sectional data constrains the ability to infer causality or observe temporal changes in the constructs. Future research could address this limitation by employing longitudinal designs that track how agility and innovation evolve over time and how these changes affect performance trajectories. Another limitation is the reliance on self-reported data, which may introduce biases related to social desirability or retrospective rationalization. Although procedural remedies were implemented to mitigate common method bias, future studies could supplement perceptual data with archival performance records or third-party assessments.

The study also opens up several avenues for future research. One promising direction is the exploration of digital transformation as a mediating or moderating variable in the agility–innovation–performance relationship. With the growing digitalization of business models, especially in emerging markets, digital capability may serve as an enabler of both agility and innovation. Another area for exploration is the role of organizational culture in shaping how agility is enacted and how innovation is institutionalized. Culture may not only affect the willingness to change but also the ability to sustain innovation efforts over time. Furthermore, future studies could examine whether the relationships uncovered in this study hold across different national cultures or economic systems. Cross-cultural comparative research could test the model's robustness and reveal whether the impact of agility and innovation varies based on institutional or normative differences.

In conclusion, this study provides strong empirical support for the proposition that strategic

agility, when channeled through innovation capability and applied within uncertain environments, serves as a powerful driver of organizational performance. It advances the theoretical understanding of how dynamic capabilities function within complex environments and contributes to a more integrative, nuanced view of capability deployment. For both scholars and practitioners, the findings underscore that agility and innovation are not stand-alone solutions but interdependent forces that, when aligned, can turn environmental turbulence into strategic opportunity.

Conclusions

In the context of contemporary business landscapes marked by rapid change, technological disruption, and intensifying market competition, this study has attempted to provide a comprehensive empirical examination of the interrelationships among strategic agility, innovation capability, environmental uncertainty, and organizational performance. It does so by integrating conceptual foundations from Dynamic Capabilities Theory (DCT), the Resource-Based View (RBV), and Contingency Theory, operationalized within a structured empirical model that captures the complex dynamics of capability deployment under environmental turbulence. Using a large-scale dataset of 400 managers from diverse Chinese industries, this research affirms that strategic agility, far from being a peripheral managerial concept, serves as a central enabling capability that unlocks organizational adaptability and performance. However, it also uncovers the critical role that innovation capability and contextual contingencies play in shaping the efficacy of agility.

The study's most fundamental conclusion is that strategic agility significantly and positively influences organizational performance. This finding aligns with an extensive body of literature emphasizing the centrality of responsiveness, resource fluidity, and strategic realignment in dynamic markets (Doz & Kosonen, 2010; Teece, 2007). Yet what distinguishes this research is the demonstration that this relationship is not entirely direct or automatic. The effect of agility on performance is mediated through innovation capability, a finding that reframes the understanding of agility not as an endpoint, but as a process-oriented enabler. Agile organizations, through their capacity to perceive opportunities early and redeploy assets fluidly, set the stage for innovation to take place. In essence, agility provides the momentum, but innovation determines the trajectory. This reveals an underlying logic in the dynamic capabilities' framework: that firms must combine sensing with seizing and transforming, and that innovation capability often constitutes the operational domain where these high-level actions are translated into meaningful outputs.

Furthermore, this study provides strong empirical evidence for the moderating role of environmental uncertainty in the innovation–performance relationship. Contrary to deterministic assumptions that see uncertainty as uniformly detrimental to performance outcomes, the findings indicate that uncertainty can act as a performance amplifier when innovation capability is present. This aligns with emerging views that organizations can cultivate "resilience through dynamism," treating

uncertainty not as a threat, but as an opportunity space for creative adaptation and differentiation. Environmental uncertainty, in this sense, serves a catalytic role: it tests and reveals the strength of a firm's internal capabilities, particularly its innovation engine. The performance returns to innovation capability are significantly higher in volatile contexts, suggesting that in markets characterized by shifting customer demands, policy unpredictability, and technological change, the capacity to innovate is elevated from a competitive differentiator to a strategic necessity.

The implication here is multi-layered. First, firms must realize that agility alone is not sufficient unless it is strategically coupled with strong innovation routines. Agile firms without innovation become fast followers; they respond but rarely lead. Conversely, innovative firms without agility may fail to adapt their innovations to market shifts quickly enough, risking obsolescence. The strategic synthesis of agility and innovation thus emerges as the ideal configuration for high-performance firms operating under uncertainty. Second, environmental uncertainty should not merely be acknowledged in strategic planning as a risk factor—it must be embedded as a strategic design variable. Organizations that treat volatility as a potential resource and plan accordingly can develop capabilities that are not only adaptive but regenerative.

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