

Unpacking strategic agility: Aggregate and dimensional effects on organizational performance in an emerging economy

Carlos Andres Diaz Rojas* Full-Time Professor, Department of Administration, Universidad del Pacífico, Lima, Peru.
c.diazrojas@up.edu.peRicardo Miguel Pino Jordan Academic director, Graduate School, Universidad Peruana de Ciencias Aplicadas, Lima, Peru.
ricardo.pino@upc.pe

Abstract

Drawing on the dynamic capabilities' framework, this study examines how strategic agility contributes to organizational performance in an emerging economy context. Strategic agility is modeled as a higher-order construct and analyzed through its three meta-capabilities: strategic sensitivity, leadership unity, and resource fluidity. The study also evaluates whether environmental dynamism moderates the strategic agility-performance relationship. Using survey data from 241 general managers and directors of formal firms in Metropolitan Lima, Peru, the hypotheses were tested through PLS-SEM. The results show that strategic agility has a positive and significant effect on organizational performance, both as an aggregate construct and through its underlying meta-capabilities. However, environmental dynamism does not significantly moderate this relationship. These findings support the role of strategic agility as an integrative dynamic capability and suggest that its performance implications are not contingent solely on environmental dynamism.

Keywords: strategic agility; environmental dynamism; organizational performance; dynamic capabilities; Peru.

Descomponiendo la agilidad estratégica: efectos agregados y dimensionales en el desempeño organizacional en una economía emergente

Resumen

Basado en el marco de las capacidades dinámicas, este estudio examina cómo la agilidad estratégica contribuye al desempeño organizacional en el contexto de una economía emergente. La agilidad estratégica se modela como un constructo de orden superior y se analiza a través de sus tres metacapacidades: sensibilidad estratégica, unidad de liderazgo y fluidez de recursos. Asimismo, se evalúa si el dinamismo ambiental modera la relación entre la agilidad estratégica y el rendimiento. A partir de datos obtenidos mediante encuestas a 241 gerentes generales y directores de empresas formales en Lima Metropolitana (Perú), las hipótesis se pusieron a prueba utilizando modelos de ecuaciones estructurales de mínimos cuadrados parciales (PLS-SEM). Los resultados demuestran que la agilidad estratégica tiene un efecto positivo y significativo en el desempeño organizacional, tanto como constructo agregado como a través de sus metacapacidades subyacentes. No obstante, el dinamismo ambiental no modera significativamente esta relación. Estos hallazgos respaldan el rol de la agilidad estratégica como una capacidad dinámica integradora y sugieren que sus efectos sobre el rendimiento no dependen exclusivamente del dinamismo del entorno.

Palabras clave: agilidad estratégica; dinamismo ambiental; desempeño organizacional; capacidades dinámicas; Perú.

Desvendando a agilidade estratégica: efeitos agregados e dimensionais sobre o desempenho organizacional em uma economia emergente

Resumo

Com base na perspectiva das capacidades dinâmicas, este estudo examina como a agilidade estratégica contribui para o desempenho organizacional no contexto de uma economia emergente. A agilidade estratégica é modelada como um construto de ordem superior e analisada por meio de suas três metacapacidades: sensibilidade estratégica, unidade de liderança e fluidez de recursos. Além disso, avalia-se se o dinamismo ambiental modera a relação entre a agilidade estratégica e o desempenho organizacional. Com base em dados obtidos por meio de questionários aplicados a 241 gerentes-gerais e diretores de empresas formais da Região Metropolitana de Lima (Peru), as hipóteses foram testadas utilizando modelagem de equações estruturais por mínimos quadrados parciais (PLS-SEM). Os resultados demonstram que a agilidade estratégica exerce um efeito positivo e significativo sobre o desempenho organizacional, tanto como construto agregado quanto por meio de suas metacapacidades subjacentes. Contudo, o dinamismo ambiental não modera significativamente essa relação. Esses achados corroboram o papel da agilidade estratégica como uma capacidade dinâmica integradora e sugerem que seus efeitos sobre o desempenho organizacional não dependem exclusivamente do dinamismo do ambiente.

Palavras-chave: agilidade estratégica; dinamismo ambiental; desempenho organizacional; capacidades dinâmicas; Peru.

* Corresponding author.

JEL classification: M100; L210; L250.

How to cite: Diaz, C. A., and Pino, R. M. [2026]. Unpacking strategic agility: aggregate and dimensional effects on organizational performance in an emerging economy. *Estudios Gerenciales*, 42(178), a7687. <https://doi.org/10.18046/j.estger.2026.178.7687>

DOI: <https://doi.org/10.18046/j.estger.2026.178.7687>

Recibido: 14-08-2025

Aceptado: 09-06-2026

Publicado: 27-07-2026

1. Introduction

In increasingly uncertain and changing environments, firms require capabilities that allow them to adapt and realign their strategies over time (Wamba et al., 2020). The dynamic capabilities framework (DCF) proposes that firms develop and sustain competitive advantage through sensing, seizing, and reconfiguring capabilities, which allow them to respond to environmental change (Teece, 2009). Within this perspective, prior literature identifies strategic agility as a dynamic capability that enables organizations to adapt to uncertain and dynamic environments (Mueller-Saegebrecht & Walter, 2025). Despite these benefits, some studies indicate that strategic agility does not always have a significant effect on organizational performance. This finding points to the need to examine more carefully how strategic agility contributes to organizational performance.

Dynamism is a key factor in analyzing the effect of strategic agility on organizational performance, as it captures the degree of unpredictability and the rate of change in a firm's external environment (Dess & Beard, 1984). A stable environment is characterized by slow and predictable changes, allowing firms to address environmental shifts through existing strategies and routines (Fainshmidt et al., 2019). By contrast, a turbulent environment is characterized by frequent and unexpected changes, making it more difficult for firms to sustain competitive advantage over time (Fabrizio et al., 2022). Such environments also require firms to reformulate strategies rapidly and continuously in response to environmental change (Dagnino et al., 2021). From a DCF perspective, although strategic agility may help firms adapt to changes in dynamic environments, its deployment under such conditions may also increase uncertainty, coordination costs, and difficulties in resource allocation (Teece et al., 2016). This makes environmental dynamism a relevant contextual condition for understanding when and how strategic agility contributes to organizational performance.

The empirical evidence on the strategic agility–performance relationship remains inconsistent. While several studies report a positive association (Alokshe et al., 2025; Suradi et al., 2020; Yildiz & Aykanat, 2021), others fail to identify a significant direct effect (Alkandi & Helmi, 2024; Kumar et al., 2023; Shin et al., 2015). This suggests that the conditions and mechanisms through which strategic agility contributes to organizational performance are still insufficiently specified. This limitation may stem from two related tendencies in prior research: examining strategic agility as a broad adaptive capability without fully unpacking how its underlying dimensions contribute to performance, and assuming that environmental dynamism strengthens the value of strategic agility without sufficiently considering its ambivalent effects.

From a DCF perspective, strategic agility should not be understood merely as a general organizational attribute, but as a higher-order capability that enables firms to sense environmental changes, commit to timely strategic

responses, and reconfigure resources accordingly (Doz & Kosonen, 2008, 2010). Therefore, its performance implications may depend not only on the overall level of agility, but also on the coordinated operation of its underlying dimensions. However, much of the empirical literature has operationalized strategic agility as a first-order construct (Dayioglu et al., 2024; Mueller-Saegebrecht & Walter, 2025; Vrontis et al., 2023), despite its theoretical development as a second-order dynamic capability. This divergence limits understanding of whether strategic agility contributes to performance through its systemic higher-order configuration, the differentiated effects of its underlying dimensions, or the contextual conditions under which it is deployed.

Environmental dynamism further complicates the relationship. Although the DCF suggests that dynamic capabilities become especially relevant under turbulent environmental conditions, such conditions do not automatically strengthen the performance benefits of strategic agility (Reed, 2021; Shin et al., 2015; Srinivasan et al., 2020). Rather, they may create opportunities for agile firms while also increasing uncertainty, coordination costs, and resource-allocation difficulties (Teece et al., 2016). Therefore, environmental dynamism should be examined not as an inherently favorable condition, but as a contextual factor that may shape the extent to which strategic agility is converted into organizational performance.

Taken together, these unresolved issues suggest that the strategic agility–performance relationship cannot be fully addressed by testing only its aggregate direct effect. A more theoretically grounded explanation requires examining strategic agility as a hierarchical dynamic capability and assessing whether environmental dynamism conditions the conversion of this capability into organizational performance. To the best of our knowledge, prior research has not simultaneously addressed these two aspects, particularly in emerging economy contexts, where institutional and environmental volatility may intensify both the value and the costs of agility (Marquis & Raynard, 2015). Accordingly, this study models strategic agility hierarchically and examines both its aggregate and dimensional effects on organizational performance, while testing the moderating role of environmental dynamism in an emerging economy context.

This study contributes to the strategic management literature in four ways. First, it advances a capability-based account of the strategic agility–performance relationship by examining strategic agility as a higher-order dynamic capability rather than only as a broad adaptive attribute. Second, it clarifies the internal structure of strategic agility by assessing whether its performance implications derive from its aggregate configuration or from the differentiated effects of its underlying dimensions. Third, it refines the contingent logic of the DCF by testing whether environmental dynamism alters the performance implications of strategic agility, rather than treating dynamic environments as inherently favorable contexts for dynamic capabilities.

Finally, it extends empirical evidence on strategic agility by focusing on an emerging economy context, where environmental and institutional volatility may make the conversion of agility into performance especially complex.

This article is organized as follows; Section 2 develops the theoretical framework; Section 3 describes the research design and method; Section 4 presents the results of the hypothesis testing; Section 5 discusses the findings; finally, the conclusion summarizes the most salient aspects of the research, presents its theoretical and practical implications, discusses its limitations, proposes future research directions.

2. Theoretical framework

2.1 Dynamic capabilities framework

The dynamic capabilities framework (DCF) posits that sustained competitive advantage derives not merely from the possession of valuable resources, but from the firm's ability to integrate, build, and reconfigure internal and external competencies in response to environmental change (Teece et al., 1997). In this context, dynamic capabilities operate through higher-order processes commonly described as sensing, seizing, and reconfiguring, which enable organizations to identify emerging opportunities and threats, mobilize strategic responses, and realign resource configurations accordingly (Teece, 2009). Within this perspective, competitive advantage emerges from the effective orchestration of these adaptive processes over time. Strategic agility can therefore be understood as a higher-order dynamic capability that captures the organization's capacity to continuously adjust its strategic direction through coordinated sensing, decision-making, and resource reconfiguration mechanisms (Weber & Tarba, 2014). Although the DCF was originally developed to explain how firms sustain competitive advantage under conditions of rapid environmental change, the framework does not explicitly specify whether dynamic capabilities generate superior performance only in highly dynamic environments or whether they also provide value under more stable conditions. This theoretical tension provides the foundation for examining both the direct and contingent effects of strategic agility on organizational performance.

2.2 Strategic agility and organizational performance

Strategic agility can be defined as a higher-order dynamic capability that enables organizations to continuously adjust their strategic direction to sustain competitive alignment under changing environmental conditions (Weber & Tarba, 2014). Building on Doz & Kosonen's (2008, 2010) conceptualization, it is composed of three interrelated meta-capabilities (strategic sensitivity, leadership unity, and resource fluidity) that collectively enhance the firm's ability to anticipate environmental shifts, make coherent strategic decisions, and reconfigure resources accordingly.

Strategic sensitivity strengthens the organization's capacity to detect emerging opportunities and threats at an early stage, thereby reducing strategic blind spots. Leadership unity facilitates timely and coordinated decision-making, minimizing internal fragmentation and enabling decisive strategic action. Resource fluidity enhances the organization's ability to redeploy resources and reconfigure operational structures, reducing structural inertia and improving adaptive responsiveness. Each of these meta-capabilities contributes to improving strategic alignment and adaptive effectiveness, which in turn increases the likelihood of superior organizational performance.

Beyond their individual contributions, the integration of strategic sensitivity, leadership unity, and resource fluidity creates a higher-order capability that enhances the organization's capacity to continuously integrate, build, and reconfigure internal and external competencies in response to environmental change, improving its capacity to exploit external opportunities and counteract threats effectively (Teece et al., 1997). From the DCF perspective, this configurational integration strengthens the firm's overall adaptive capacity, further reinforcing its ability to sustain superior performance. In this study, organizational performance is understood as a multidimensional construct that may encompass financial performance, business performance, and organizational effectiveness (Venkatraman & Ramanujam, 1986). Over time, strategic agility increases the likelihood of achieving a competitive advantage that eventually will translate into superior organizational performance (Dagnino et al., 2021).

The literature provides sound empirical evidence of a direct and positive relationship between strategic agility and organizational performance (Rozak et al., 2023; Vrontis et al., 2023; Yildiz & Aykanat, 2021). Based on these theoretical and empirical antecedents, the following hypotheses are proposed:

H1. Strategic agility has a direct and positive impact on organizational performance.

H1a. Strategic sensitivity has a direct and positive impact on organizational performance.

H1b. Leadership unity has a direct and positive impact on organizational performance.

H1c. Resource fluidity has a direct and positive impact on organizational performance.

2.3 Moderating effect of environmental dynamism

Environmental dynamism refers to the degree of unpredictability and rate of change in a firm's external environment (Dess & Beard, 1984). In dynamic environments, firms face greater pressure to adapt in order to sustain competitiveness (Yuan et al., 2021). Such dynamism is neither inherently favorable nor detrimental. It may create opportunities for organizations capable of rapid sensing, decision-making, and resource reconfiguration, but it may also increase uncertainty, strain organizational resources, and raise coordination costs (Teece et al., 2016).

The DCF suggests that the impact of dynamic capabilities is context-dependent (Teece, 2007). In relatively stable environments, competitive conditions evolve gradually, allowing firms to rely more heavily on established routines and incremental adjustments (Hutter et al., 2025). Under such circumstances, the marginal contribution of strategic agility to organizational performance may be limited, as the urgency of continuous strategic realignment is reduced. By contrast, highly dynamic environments are characterized by frequent and unpredictable changes in technologies, customer preferences, and competitive actions (Do et al., 2022). These conditions may increase the relevance of strategic agility because firms must sense emerging changes, coordinate timely strategic decisions, and reconfigure resources efficiently (Teece et al., 1997). At the same time, they may also make it more difficult for firms to convert agility into superior performance, as uncertainty and coordination demands can erode the benefits of strategic agility.

Therefore, environmental dynamism is examined as a contextual factor that may affect the extent to which strategic agility contributes to organizational performance. Rather than assuming that dynamic environments necessarily strengthen this relationship, this study tests whether the performance implications of strategic agility differ across levels of environmental dynamism. Prior empirical studies provide partial support for the moderating role of environmental dynamism in the strategic agility–performance relationship (Adomako et al., 2022; Harun et al., 2023; Schilke, 2014). Following these theoretical and empirical antecedents, the following hypothesis is proposed:

H2. Environmental dynamism moderates the relationship between strategic agility and organizational performance, such that the strength of this relationship differs across levels of environmental dynamism.

2.4 Control variables

Related studies suggest controlling for firm age and firm size (Vrontis et al., 2023). Firm age corresponds to the number of years since a firm was established. Firm size corresponds to the total number of full-time employees. The research model is shown in Figure 1.

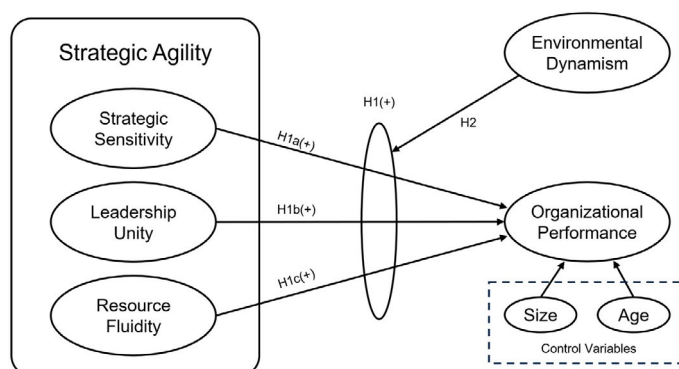


Figure 1. Research model.
Source: own elaboration.

3. Research design and method

The initial objective of this research was to examine the formal Peruvian business ecosystem. However, because of the low response rate outside Metropolitan Lima (5.5%), the study population was restricted to firms operating within this region. Accordingly, the unit of analysis consisted of private, formal firms based in Metropolitan Lima.

3.1 Assessment of the research model

The research model was assessed using partial least squares structural equation modeling (PLS-SEM). This method was selected because it is suitable for analyzing complex structural relationships among latent variables, estimating moderating effects, and handling both reflective and hierarchical constructs without requiring multivariate normality (Hair et al., 2019). Moreover, PLS-SEM is appropriate for studies with relatively small to medium sample sizes and prediction-oriented objectives. Regarding sample size adequacy, we followed the recommendations of Hair et al. (2019), who suggest that a minimum of 100 observations is acceptable for structural models comprising five or fewer constructs. To ensure sufficient statistical power and robustness of the estimates, the target sample size was set at 200 firms, thereby exceeding the recommended minimum threshold.

3.2 Measurement instrument

We operationalized strategic agility, environmental dynamism, and organizational performance based on Hock et al. (2016), Schilke (2014), and Clauss et al. (2021), respectively. All constructs were measured using multi-item scales adapted from prior research. Responses were captured using a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. The original questionnaires were developed in English and subsequently translated and culturally adapted into Spanish following the methodology proposed by Beaton et al. (2000). First, four translators, both informed and uninformed, conducted forward and backward translations of the original instrument. Any discrepancies identified during the process were resolved based on the translators' reports. Second, a panel of four academic experts and four practitioners evaluated the instrument to ensure cross-cultural equivalence by assessing semantic, idiomatic, experiential, and conceptual consistency. Finally, a pilot test was conducted to validate and refine the final version of the questionnaire. Approval was then obtained from the institutional ethics committee before the survey was administered. Once ethical clearance was granted, data collection began.

3.3 Sample

Data were collected from Peruvian firms using a single-respondent approach, which is commonly employed in

research on small and medium-sized enterprises (Kull et al., 2018). To minimize potential response bias, survey participants were carefully selected (Krause et al., 2018). Respondents were directors or general managers who were familiar with the company, possessed knowledge of its strategies, processes, and operations, and had the authority to provide the required information (Kim & Daniel, 2020). Potential participating firms were initially identified using the Perú Top PYMES database, and an initial sampling frame was constructed using probabilistic sampling procedures. However, due to the low response rate (less than 1%), the final sample was supplemented using convenience sampling procedures, with additional participants contacted via LinkedIn. This combined sampling strategy may have introduced potential biases, particularly by increasing the likelihood of including firms whose managers were more digitally connected, professionally networked, or willing to participate in academic research. Accordingly, the sample should not be interpreted as statistically representative of all Peruvian firms.

A total of 525 individuals representing different companies expressed interest in participating in the study. They received a web-based SurveyMonkey link to access the survey. To increase the response rate, reminder emails were sent every seven days, up to a maximum of two follow-up reminders. This process yielded 273 responses. A preliminary analysis showed that 18 questionnaires were incomplete and were therefore removed. Of the remaining 255 questionnaires, 94.5% of the firms represented were located in Metropolitan Lima, while the rest were located in other administrative departments. Given this concentration, we focused the study on firms in Metropolitan Lima, resulting in a final sample of 241 firms. This decision avoided drawing conclusions from a small number of firms located outside the main sampling context, although it limits the geographical generalizability of the findings. To mitigate potential concerns associated with the single-respondent design, common method bias (CMB) and non-response bias (NRB) were assessed.

3.4 Descriptive analysis

The respondents were primarily general managers (86.7%) and directors (7.5%). The firms they represented pertained to the service (30.7%), technology (22.4%), and

trade (21.2%) industries. Meanwhile, 72.2% of respondents belonged to the micro and small enterprise (MSE) category, and 27.8% to that of medium and large enterprises. When it came to firm age, 13.7% of the businesses were start-ups, 41.1% were mature, and 45.2% were older. Table 1 provides an overview of the sample profile.

Table 1. Descriptive profile of respondents and firms.

Category	Quantity	Percentage (%)
Informant profile		
General manager	209	86.7%
Director	18	7.5%
Owner	8	3.3%
Other	6	2.5%
Industry profile		
Services	74	30.7%
Technology	54	22.4%
Trade	51	21.2%
Other	62	25.7%
Firm size		
Microenterprise (1–10 employees)	73	30.3%
Small enterprise (11–50 employees)	101	41.9%
Medium to large enterprise (more than 50 employees)	67	27.8%
Firm age		
Startup firm (1–3 years)	33	13.7%
Mature firm (4–10 years)	99	41.1%
Older firm (more than 10 years)	109	45.2%

Source: own elaboration.

In addition to the descriptive profile of the sample, descriptive statistics and correlations were calculated for the main constructs. Table 2 reports the means, standard deviations, and correlations among strategic agility, its three underlying dimensions, environmental dynamism, and organizational performance.

Data normality was assessed using both Kolmogorov-Smirnov and Shapiro-Wilk tests in RStudio. The results indicated significant deviations from normality, which is consistent with the use of PLS-SEM as a variance-based approach robust to non-normal data. To assess common

Table 2. Descriptive statistics and correlations among the main constructs.

Construct	Mean	SD	AGI	SEN	LUN	FLU	ENV	PER
Strategic Agility	4.03	0.498	1					
Strategic Sensitivity	4.25	0.578	0.762*	1				
Leadership Unity	4.15	0.596	0.791*	0.490*	1			
Resource Fluidity	3.69	0.731	0.797*	0.368*	0.415*	1		
Environmental Dynamism	3.52	0.745	0.257*	0.213*	0.165*	0.222*	1	
Organizational Performance	3.70	0.657	0.515*	0.419*	0.406*	0.391*	0.195*	1

Note. Means, standard deviations, and correlations were calculated using composite scores based on the original response scale. Strategic agility was computed as the average of strategic sensitivity, leadership unity, and resource fluidity. AGI: Strategic agility, SEN: Strategic sensitivity, LUN: Leadership unity, FLU: Resource fluidity, ENV: Environmental dynamism, PER: Organizational performance. * $p < 0.05$.

Source: own elaboration.

method bias [CMB], we applied the full collinearity approach proposed by Kock (2017). All inner variance inflation factor (VIF) values were below the conservative threshold of 3.3, indicating that the observed relationships are unlikely to be inflated by common method variance. As a complementary diagnostic, Harman's single-factor test was conducted, with the first unrotated factor accounting for 23.96% of the total variance, also suggesting the absence of substantial CMB (MacKenzie & Podsakoff, 2012). Non-response bias was assessed using the early-late respondent technique (Armstrong & Overton, 1977), whereby the first 30% and last 30% of responses were compared. Independent samples t-tests revealed no significant differences between early and late respondents across the first- and second-order constructs (p values > 0.05). Effect sizes were negligible (Cohen's d < 0.20), indicating that non-response bias is unlikely to threaten the validity of the findings.

4. Results

4.1 Assessment of first-order constructs

All the first-order constructs in the model are reflective. In this context, we used confirmatory composite analysis (CCA) to validate the measurement model (Hair et al., 2019). First, we found that all indicators had loadings above 0.7, except for ENV02, which had a loading of 0.587. However, this value is considered acceptable in the context of the present study, as Cronbach's alpha (α), rho_A, composite reliability (CR), and average variance extracted (AVE) for Environmental Dynamism already exceeded recommended thresholds (α , rho_A, CR > 0.70; AVE > 0.50), and removing the indicator resulted only in marginal improvements in reliability and convergent validity estimates (Hair et al., 2019). Given its theoretical relevance, the indicator was retained to preserve content validity.

Second, we assessed the internal reliability of each construct. All constructs exhibited α , rho_A, and CR values above 0.70, indicating satisfactory reliability, with the exception of strategic sensitivity and leadership unity. In the former case, α and rho_A were marginally below 0.70 and therefore considered acceptable. In the latter case, although α and rho_A were slightly below the conventional threshold, leadership unity demonstrated adequate convergent validity, with CR above 0.70, AVE exceeding 0.50, and all outer loadings above recommended levels. As a lower-order reflective construct within a higher-order formative specification, its function is to capture a distinct dimension contributing to the higher-order construct rather than to maximize internal homogeneity. Given its limited number of indicators and the satisfactory evidence of convergent validity, the construct was considered adequately specified.

Third, we analyzed convergent validity to corroborate that the indicators of each construct shared a high proportion of common variance. Each construct had an AVE value greater than 0.5. Therefore, each construct explained more than 50% of the average variance of its indicators. Table 3 presents these results. Finally, we analyzed discriminant validity. All constructs had a heterotrait-monotrait ratio (HTMT) below 0.85. Therefore, all constructs were distinct from one another. These results are shown in Table 4.

Table 4. Discriminant validity assessment of first-order reflective constructs.

Construct	SEN	LUN	FLU	ENV
Leadership Unity	0.741			
Resource Fluidity	0.519	0.610		
Environmental Dynamism	0.286	0.231	0.284	
Organizational Performance	0.572	0.573	0.521	0.277

Note. SEN: Strategic sensitivity, LUN: Leadership unity, FLU: Resource fluidity, ENV: Environmental dynamism.

Source: own elaboration.

Table 3. Convergent validity assessment of first-order reflective constructs.

Construct	Indicator	Outer loading	Reliability indicator	α	rho_A	CR	AVE
Strategic Sensitivity	AGI01	0.770	0.593	0.694	0.697	0.830	0.620
	AGI02	0.823	0.677				
	AGI03	0.768	0.590				
	AGI04	0.714	0.510				
Leadership Unity	AGI05	0.811	0.658	0.633	0.637	0.803	0.577
	AGI06	0.752	0.566				
	AGI07	0.732	0.536				
Resource Fluidity	AGI08	0.832	0.692	0.719	0.719	0.843	0.643
	AGI09	0.837	0.701				
	ENV01	0.721	0.520				
Environmental Dynamism	ENV02	0.587	0.345	0.828	0.829	0.870	0.577
	ENV03	0.784	0.615				
	ENV04	0.840	0.706				
	ENV05	0.837	0.701				
Organizational Performance	PER01	0.792	0.627	0.813	0.840	0.866	0.563
	PER02	0.773	0.598				
	PER03	0.701	0.491				
	PER04	0.748	0.560				
	PER05	0.736	0.542				

Note. α : Cronbach's Alpha, CR: Composite reliability, AVE: Average variance extracted.

Source: own elaboration.

4.2 Assessment of second-order construct

Strategic agility is conceptualized as a reflective-formative second-order construct (Becker et al., 2012). This is consistent with Doz and Kosonen (2008, 2010), who found that strategic sensitivity, leadership unity, and resource fluidity are necessary capabilities for an organization to be strategically agile. The higher-order construct was estimated using the repeated indicators approach. This method is appropriate given the reflective-formative specification of the hierarchical model, the exogenous role of the higher-order construct in the structural model, the satisfactory measurement properties of the lower-order constructs, and the moderate complexity of the model (Becker et al., 2012; Hair et al., 2022).

First, we analyzed multicollinearity among the first-order formative constructs to verify that they were not highly correlated. The VIF values were below three. Therefore, no major multicollinearity was found among the strategic agility first-order constructs (MacKenzie et al., 2011). Table 5 shows these results. Second, we analyzed the effect of each strategic agility first-order construct on the second-order construct to determine whether they were significantly related. The results show that the three first-order constructs had direct, positive, and significant effects on strategic agility. Therefore, the first-order constructs and the second-order construct were related. Table 6 shows these results.

Table 5. Multicollinearity analysis of strategic agility first-order formative constructs

Strategic Agility First Order Constructs	Strategic Agility (VIF)
Strategic Sensitivity	1.381
Leadership Unity	1.441
Resource Fluidity	1.261

Note. VIF: Variance inflation factor.

Source: own elaboration.

Table 6. Impact assessment of strategic agility first-order constructs on the second-order construct

Relationship between constructs	Path coefficient (β)	Significance (p-value)
Strategic Sensitivity → Strategic Agility	0.443	< .001
Leadership Unity → Strategic Agility	0.404	< .001
Resource Fluidity → Strategic Agility	0.426	< .001

Note: Path coefficients were estimated solely to assess the higher-order construct and do not correspond to those in the structural models

Source: own elaboration.

Finally, we analyzed the validity of the strategic agility first-order constructs as formative elements of the second-order construct. The aim was to verify that the construct level error variance was not greater than half of the total construct variance (MacKenzie et al., 2011). To this end, we calculated the adequacy coefficient (MacKenzie et al., 2011). The results showed an adequacy coefficient of 0.62. This means that the construct level error variance was not greater than half of the construct variance. Table 7 shows

these results. Having analyzed the validity of the first-order reflective constructs and the second-order reflective-formative construct, we validated the measurement model.

Table 7. Assessment of validity of strategic agility first-order constructs as formative elements of the second-order construct

Strategic agility first order constructs	Correlation with strategic agility	Adequacy coefficient (R ² a)
Strategic Sensitivity	0.800	0.62
Leadership Unity	0.799	
Resource Fluidity	0.757	

Source: own elaboration.

4.3 Assessment of structural models

Four structural models were estimated. The first model predicted organizational performance based on the control variables. The second model included the effect of strategic agility on organizational performance. The third model assessed the effect of each dimension of strategic agility on organizational performance. Finally, the fourth model was based on the second model and included the moderating effect of environmental dynamism. The structural model was assessed using SmartPLS 3.0 with 5,000 bootstrap samples. The general results are reported in Table 8, while Model 2, which includes the second-order strategic agility construct, is displayed in Figure 2.

Table 8. Assessment of structural models

Dependent Variable: Organizational Performance				
	Model 1	Model 2	Model 3	Model 4
Control variables				
Age	0.037 (0.087)	0.044 (0.062)	0.042 (0.062)	0.016 (0.060)
Size	0.240 (0.137)	0.083 (0.061)	0.082 (0.058)	0.127 (0.055)
Independent variables				
Strategic sensitivity			0.285* (0.059)	
Leadership unity			0.191* (0.065)	
Resource fluidity			0.254* (0.058)	
Strategic agility		0.564* (0.043)		0.515* (0.053)
Environmental Dynamism				0.126* (0.053)
Moderating effect				
Strategic Agility X Environmental Dynamism				-0.087 (0.186)
Statistics				
R ²	0.067	0.323	0.334	0.348
Δ R ²		0.256	0.011	0.014
Adjusted R ²	0.059	0.314	0.320	0.334
Δ Adjusted R ²		0.255	0.006	0.014

Note. *p < 0.05, values in parentheses show standard deviation.

Source: own elaboration.

4.4 Hierarchical modeling of strategic agility

The purpose of this section was to assess the structural adequacy of modeling strategic agility as a second-order construct (Model 2) compared to a disaggregated first-order specification (Model 3). First, a comparison of the adjusted R^2 values revealed only a marginal difference between the two specifications (Δ Adjusted $R^2 = 0.006$), indicating that the dimensional model provided only a negligible incremental increase in explained variance. Thus, modeling the three dimensions separately did not substantially enhance the explanatory power of the model. Second, the path coefficients of the three dimensions in Model 3 were relatively balanced in magnitude. No single dimension exerted a disproportionately stronger effect on organizational performance, suggesting that the performance implications of strategic agility were not driven by a dominant component. Rather, the evidence supported an integrative interpretation of the construct. Third, given that both specifications exhibited comparable explanatory capacity, the principle of parsimony favored the second-order representation, as it achieved similar levels of explained variance with fewer structural parameters. Overall, the findings indicated that the hierarchical specification provided a parsimonious and theoretically coherent representation of strategic agility, consistent with its conceptualization as an integrative meta-capability.

4.5 Hypothesis testing

Model 1 included only the control variables. Neither firm age ($\beta = 0.037$, $p > 0.05$) nor firm size ($\beta = 0.240$, $p > 0.05$) had a significant effect on organizational performance. The model explained 5.9% of the variance in organizational performance (Adjusted $R^2 = 0.059$). Model 2

incorporated strategic agility as a second-order construct. Strategic agility ($\beta = 0.564$, $p < 0.05$) had a positive and significant direct effect on organizational performance. The inclusion of this variable markedly increased the explanatory power of the model (Adjusted $R^2 = 0.314$), representing a substantial improvement over Model 1. Accordingly, H1 was supported.

Model 3 estimated the effects of the individual meta-capabilities. Strategic sensitivity ($\beta = 0.285$, $p < 0.05$), leadership unity ($\beta = 0.191$, $p < 0.05$), and resource fluidity ($\beta = 0.254$, $p < 0.05$) all showed positive and significant relationships with organizational performance. This model explained 32.0% of the variance (Adjusted $R^2 = 0.320$), indicating only a marginal increase compared with Model 2 (Δ Adjusted $R^2 = 0.006$). Hypotheses H1a, H1b, and H1c were therefore supported. Model 4 examined the moderating effect. Strategic agility ($\beta = 0.515$, $p < 0.05$) retained a positive and significant direct effect. However, the interaction term between strategic agility and environmental dynamism was not significant ($\beta = -0.087$, $p > 0.05$), providing no support for the moderating hypothesis. The overall explanatory power (Adjusted $R^2 = 0.338$) of this model represented a marginal improvement over Model 3 (Δ Adjusted $R^2 = 0.014$). Thus, H2 was not confirmed.

To further examine whether aggregation at the higher-order level of strategic agility might have attenuated the moderation effects, an additional model was estimated in which environmental dynamism was specified as a moderator of each lower-order dimension of strategic agility (strategic sensitivity, leadership unity, and resource fluidity). The results remained non-significant across all relationships (see Table 9), suggesting that the absence of moderation is unlikely to be attributable to aggregation bias. Moreover, additional statistical analysis was conducted to assess the robustness of the moderation results. Environmental

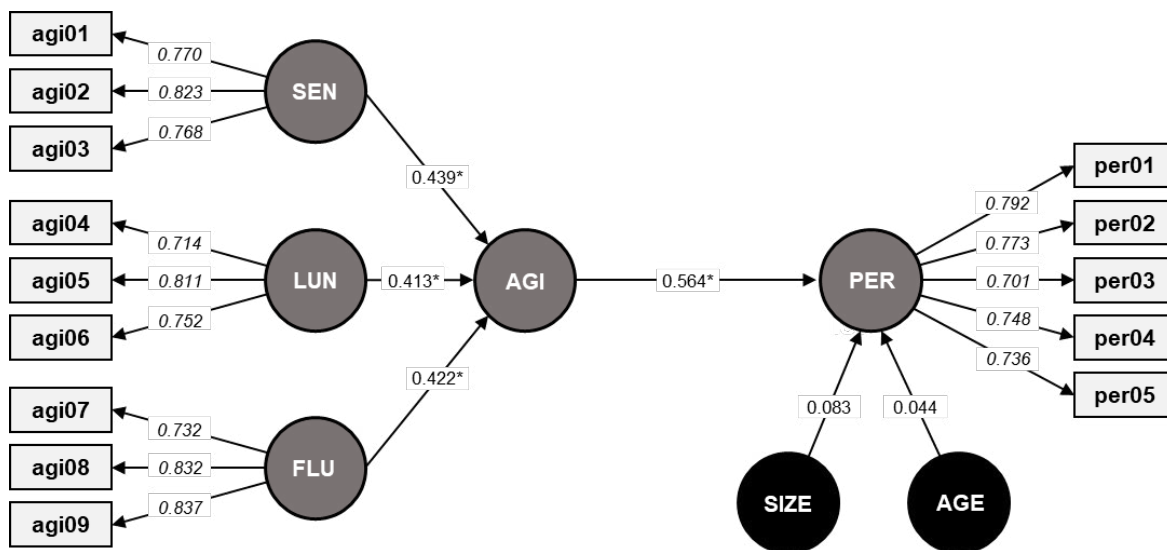


Figure 2. PLS-SEM results of Model 2.

Note. SEN: Strategic sensitivity, LUN: Leadership unity, FLU: Resource fluidity, AGI: Strategic agility, PER: Organizational performance.

* $p < 0.05$. Inner values represent standardized path coefficients. Outer values represent indicator loadings.

Source: own elaboration.

dynamism exhibited adequate variability within the sample ($M = 0.00$, $SD = 1.00$; range = -3.35 to 1.89), indicating sufficient dispersion to detect potential interaction effects. The interaction terms demonstrated low multicollinearity ($VIF < 3$) and negligible effect sizes ($f^2 < .01$). Together, these diagnostics suggest that the non-significant moderation effect was not driven by restricted variance, sample size limitations, or estimation instability.

Table 9. Moderation analysis at the lower-order dimension level of strategic agility

Moderation Effect	Path Coefficient	p-value
Strategic Sensitivity → Organizational Performance	-0.041	0.525
Leadership Unity → Organizational Performance	0.021	0.785
Resource Fluidity → Organizational Performance	0.003	0.955

Source: own elaboration.

5. Discussion

The discussion is structured around the four estimated models. Model 1 assessed the influence of the control variables—firm age and firm size—on organizational performance (Vrontis et al., 2023). The results showed that neither variable had a statistically significant effect. Although prior research has occasionally reported associations between firm age, firm size, and performance outcomes (Arend, 2014; Shrivastava & Tamvada, 2019; Younis & Sundarakani, 2019), the present findings suggest that structural characteristics alone may not be sufficient to explain performance differences. This result supports the view that organizational performance depends more critically on dynamic and strategic factors. In this sense, the absence of significant effects for age and size strengthens the theoretical positioning of strategic agility as a dynamic capability whose implications extend beyond accumulated experience or resource availability. Therefore, the findings reinforce the distinction between structural firm characteristics and higher-order dynamic capabilities as explanatory mechanisms of organizational performance.

Model 2 assessed the effect of strategic agility, conceptualized as a second-order construct, on organizational performance. Consistent with the DCF, the results indicated that strategic agility had a positive and direct effect on organizational performance. Beyond confirming prior empirical findings (Rozak et al., 2023; Vrontis et al., 2023; Yildiz & Aykanat, 2021), this result reinforces the interpretation of strategic agility as an integrative capability that enhances organizational performance by fostering continuous adaptation (Weber & Tarba, 2014). Through the coordinated interaction of strategic sensitivity, leadership unity, and resource fluidity, organizations are better positioned to anticipate environmental shifts, make coherent strategic decisions, and reconfigure resources accordingly. These findings suggest that the performance implications of strategic agility do not arise from isolated

meta-capabilities operating independently, but from their coordinated configuration of them. In this sense, competitive advantage appears to emerge from the sustained alignment of sensing, decision-making, and resource reconfiguration processes (Teece, 2009), which collectively contribute to superior organizational performance (Dagnino et al., 2021).

Model 3 examined the effects of the individual meta-capabilities of strategic agility on organizational performance. The results indicated that strategic sensitivity, leadership unity, and resource fluidity each exerted positive and significant effects on performance outcomes. While this evidence confirms that each dimension contributes independently to organizational performance, the magnitude of the path coefficients was relatively balanced, suggesting the absence of a single dominant component. This pattern indicates that the performance implications of strategic agility are not driven by individual meta-capabilities operating independently but rather emerge from the coordinated presence of all three dimensions within the organization. Importantly, the comparison between Model 2 (second-order construct) and Model 3 (meta-capabilities) revealed only a negligible increase in the explained variance when the dimensions were modeled separately ($\Delta R^2 = 0.011$). This marginal improvement suggests that the separate estimation of the meta-capabilities does not substantially enhance the model's explanatory power. In structural modeling terms, when alternative specifications exhibit comparable predictive capacity, the more parsimonious representation is generally preferred to avoid unnecessary model complexity. Accordingly, modeling strategic agility as a second-order construct provides a theoretically coherent and methodologically efficient specification. Taken together, these findings provide empirical support for the integrative interpretation proposed by Doz and Kosonen (2008, 2010), whereby strategic agility reflects the coordinated configuration of strategic sensitivity, leadership unity, and resource fluidity as mutually reinforcing components of a higher-order dynamic capability.

Although prior empirical studies have provided partial support for the moderating role of environmental dynamism in the strategic agility–performance relationship (Adomako et al., 2022; Harun et al., 2023; Schilke, 2014), Model 4 did not provide evidence of such an effect. No significant interaction effects emerged, either when strategic agility was modeled as a second-order construct or when the individual meta-capabilities were examined separately. This finding indicates that, in this sample, environmental dynamism did not significantly strengthen or weaken the relationship between strategic agility and organizational performance.

This result refines, rather than contradicts, the assumptions of the dynamic capabilities framework. The DCF suggests that the impact of dynamic capabilities is context-dependent (Teece, 2007). However, although dynamic capabilities are frequently theorized to derive particular strategic value under conditions of high environmental turbulence (Teece et al., 1997), the present findings suggest that the performance relevance of strategic agility may not be restricted to highly dynamic

environments. Dynamic environments may create opportunities for agile firms by increasing the value of rapid sensing, strategic alignment, and resource reconfiguration (Teece, 2009). This is particularly relevant when firms face pressure to adapt to frequent and unpredictable changes in technologies, customer preferences, and competitive actions (Do et al., 2022; Yuan et al., 2021). However, they may also increase uncertainty, coordination costs, and resource-allocation difficulties (Teece et al., 2016). Thus, the absence of a significant interaction effect suggests that environmental dynamism alone may not explain meaningful differences in the strength of the strategic agility–performance relationship.

One possible explanation for the non-significant interaction effects may relate to the operationalization of organizational performance as an aggregate construct. Organizational performance encompasses multiple dimensions, including financial performance, business performance, and organizational effectiveness (Venkatraman & Ramanujam, 1986), which may respond differently to environmental conditions. Therefore, it is plausible that environmental dynamism may differentially influence the relationship between strategic agility and specific performance dimensions. For instance, while strategic agility may enhance operational effectiveness in the short term, the financial returns associated with investments in agility may materialize only over time. Consequently, future research could examine whether disaggregated or longitudinal performance measures reveal heterogeneous or time-lagged moderating patterns.

From a managerial perspective, these findings suggest that firms should not view strategic agility only as a response to highly dynamic environments. Strategic sensitivity, leadership unity, and resource fluidity may contribute to performance by helping organizations anticipate changes, align strategic decisions, and reconfigure resources. Therefore, managers should invest in strategic agility as a continuing organizational capability, not merely as a reactive mechanism activated under conditions of high environmental turbulence.

Taken together, the four models provide a coherent picture of the strategic agility–performance relationship. Organizational performance does not appear to be primarily explained by structural firm characteristics such as age or size, but rather by strategic agility, both as an aggregated higher-order construct and through its underlying meta-capabilities. At the same time, environmental dynamism did not significantly condition the strategic agility–performance relationship. Collectively, these findings suggest a more nuanced understanding of the DCF. Rather than assuming that dynamic capabilities are valuable exclusively for turbulent environments, the results suggest that the performance relevance of strategic agility is not explained solely by environmental dynamism. In this sense, the contribution of strategic agility to performance appears to stem from its capacity to sustain strategic coherence over time, rather than from episodic adaptation triggered

solely by environmental volatility.

6. Conclusions

This study examined the relationship between strategic agility and organizational performance among firms operating in an emerging economy context. The findings provide empirical evidence that strategic agility, both as a higher-order construct and through its underlying meta-capabilities, has a positive and significant direct effect on organizational performance. However, environmental dynamism did not moderate the strategic agility–performance relationship.

The study makes four primary theoretical contributions. First, it provides empirical support for the direct and significant relationship between strategic agility and organizational performance. Second, it contributes to understanding the role of environmental dynamism in the strategic agility–performance relationship by showing that, despite the greater need for adaptation often associated with dynamic environments, environmental dynamism did not significantly strengthen or weaken this relationship in the present study. Third, it offers structural clarification regarding the hierarchical nature of the strategic agility construct, demonstrating that its aggregate representation provides explanatory power comparable to that of its disaggregated dimensions while maintaining theoretical coherence and parsimony. Fourth, by providing empirical evidence from an emerging economy context, the study expands the empirical scope of research on the strategic agility–performance relationship.

From a managerial perspective, the findings suggest that the development of strategic agility should not be limited to firms facing environmental turbulence. Organizations may benefit from cultivating strategic sensitivity, leadership unity, and resource fluidity as part of their regular strategic management processes, rather than only as responses to external disruption. Therefore, managers should view strategic agility as a systemic organizational capability requiring coordinated attention to sensing mechanisms, decision-making alignment, and resource reconfiguration processes. Such efforts may extend beyond episodic crises and contribute to sustained strategic alignment over time.

This study is subject to several limitations. First, because of the low response rate, the final sample incorporated convenience sampling procedures through LinkedIn, which may have introduced self-selection and coverage biases. In particular, firms whose managers were more digitally connected, professionally networked, or willing to participate in academic research may be overrepresented. This may limit the generalizability of the findings beyond the participating firms. Future research could strengthen external validity by using larger probabilistic samples across diverse geographical and sectoral contexts. Second, the cross-sectional design restricts the ability to draw causal inferences regarding the relationships examined. Longitudinal research designs would allow scholars to assess temporal dynamics and better

capture the evolving nature of capability development and performance outcomes. Third, organizational performance was operationalized as an aggregate construct, which may mask potential heterogeneous or time-lagged effects across distinct performance dimensions. Future studies could disaggregate performance into financial, operational, and strategic components to examine whether environmental dynamism affects some dimensions of performance more strongly than others. Finally, although strategic agility enhances a firm's capacity to anticipate environmental shifts and reconfigure resources, adaptive processes may still involve misalignment, delayed responses, or ineffective resource reallocation. Future research could therefore examine how complementary capabilities, such as organizational resilience, interact with strategic agility to sustain performance under unexpected shocks or extended turbulence.

Conflict of interest

The authors declare no conflict of interest.

Statement on the Use of AI

The authors declare that ChatGPT, a generative artificial intelligence tool, was used solely for language refinement and editorial support during manuscript preparation. All intellectual content, including the conceptualization, theoretical development, data analysis, interpretations, and conclusions, was developed, validated, and approved exclusively by the authors, who assumed full responsibility for the accuracy, originality, and integrity of the work.

References

- Adomako, S., Amankwah-Amoah, J., Donbesuur, F., Ahsan, M., Danso, A., & Uddin, M. (2022). Strategic agility of SMEs in emerging economies: Antecedents, consequences and boundary conditions. *International Business Review*, 31(6), Article 102032. <https://doi.org/10.1016/j.ibusrev.2022.102032>
- Alkandi, I., & Helmi, M. A. (2024). The impact of strategic agility on organizational performance: The mediating role of market orientation and innovation capabilities in emerging industrial sector. *Cogent Business & Management*, 11(1), Article 2396528. <https://doi.org/10.1080/23311975.2024.2396528>
- Alokshe, M. M. F., Adedokun, M. W., & Iyiola, K. (2025). Advanced manufacturing technologies, strategic agility, business network and sustained competitive performance: An empirical evidence from an emerging economy. *Humanities and Social Sciences Communications*, 12(1), Article 145. <https://doi.org/10.1057/s41599-025-04671-9>
- Arend, R. J. (2014). Entrepreneurship and dynamic capabilities: How firm age and size affect the "capability enhancement-SME performance" relationship. *Small Business Economics*, 42(1), 33–57. <https://doi.org/10.1007/s11187-012-9461-9>
- Armstrong, J. S., & Overton, T. S. (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research*, 14(3), 396–402. <https://doi.org/10.2307/3150783>
- Beaton, D. E., Bombardier, C., Guillemin, F., & Ferraz, M. B. (2000). Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine*, 25(24), 3186–3191. <https://doi.org/10.1097/00007632-200012150-00014>
- Becker, J. M., Klein, K., & Wetzels, M. (2012). Hierarchical latent variable models in PLS-SEM: Guidelines for using reflective-formative type models. *Long Range Planning*, 45(5–6), 359–394. <https://doi.org/10.1016/j.lrp.2012.10.001>
- Clauss, T., Abebe, M., Tangpong, C., & Hock, M. (2021). Strategic agility, business model innovation, and firm performance: An empirical investigation. *IEEE Transactions on Engineering Management*, 68(3), 767–784. <https://doi.org/10.1109/TEM.2019.2910381>
- Dagnino, G. B., Picone, P. M., & Ferrigno, G. (2021). Temporary competitive advantage: A state-of-the-art literature review and research directions. *International Journal of Management Reviews*, 23(1), 85–115. <https://doi.org/10.1111/ijmr.12242>
- Dayioglu, M., Kusu, F., & Cetindamar, D. (2024). The impact of business environmental factors on performance through strategic agility and business model innovation: An analysis based on dynamic capabilities theory. *IEEE Transactions on Engineering Management*. Advance online publication. <https://doi.org/10.1109/TEM.2024.3353734>
- Dess, G. G., & Beard, D. W. (1984). Dimensions of organizational task environments. *Administrative Science Quarterly*, 29(1), 52–73. <https://doi.org/10.2307/2393080>
- Do, H., Budhwar, P., Shipton, H., Nguyen, H. D., & Nguyen, B. (2022). Building organizational resilience, innovation through resource-based management initiatives, organizational learning and environmental dynamism. *Journal of Business Research*, 141, 808–821. <https://doi.org/10.1016/j.jbusres.2021.11.090>
- Doz, Y. L., & Kosonen, M. (2008). The dynamics of strategic agility: Nokia's rollercoaster experience. *California Management Review*, 50(3), 95–118. <https://doi.org/10.2307/41166447>
- Doz, Y. L., & Kosonen, M. (2010). Embedding strategic agility: A leadership agenda for accelerating business model renewal. *Long Range Planning*, 43(2–3), 370–382. <https://doi.org/10.1016/j.lrp.2009.07.006>
- Fabrizio, C. M., Kaczam, F., de Moura, G. L., da Silva, L. S. C. V., da Silva, W. V., & da Veiga, C. P. (2022). Competitive advantage and dynamic capability in small and medium-sized enterprises: A systematic literature review and future research directions. *Review of Managerial Science*, 16(3), 617–648. <https://doi.org/10.1007/s11846-021-00459-8>
- Fainshmidt, S., Wenger, L., Pezeshkan, A., & Mallon, M. R. (2019). When do dynamic capabilities lead to competitive advantage? The importance of strategic fit. *Journal of Management Studies*, 56(4), 758–787. <https://doi.org/10.1111/joms.12415>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Cengage Learning.
- Hair, J. F., Hult, G. T., Ringle, C., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). SAGE Publications.
- Harun, M. D., Hogset, H., & Mwesiumo, D. (2023). Dynamic capabilities and sustainability performance: Exploring the moderating role of environmental dynamism in the Norwegian fishing industry. *Sustainable Development*, 31(4), 2636–2655. <https://doi.org/10.1002/sd.2536>
- Hock, M., Clauss, T., & Schulz, E. (2016). The impact of organizational culture on a firm's capability to innovate the business model. *R&D Management*, 46(3), 433–450. <https://doi.org/10.1111/radm.12153>
- Hutter, K., Brendgens, F. M., Gauster, S. P., & Matzler, K. (2025). Scaling organizational agility: Key insights from an incumbent firm's agile transformation. *Management Decision*, 63(6), 1882–1913. <https://doi.org/10.1108/MD-05-2022-0650>
- Kim, M., & Daniel, J. L. (2020). Common source bias, key informants, and survey-administrative linked data for nonprofit management research. *Public Performance & Management Review*, 43(1), 232–256. <https://doi.org/10.1080/15309576.2019.1657915>
- Kock, N. (2017). Common method bias: A full collinearity assessment method for PLS-SEM. In H. Latan & R. Noonan (Eds.), *Partial least squares path modeling* (pp. 1–414). Springer. https://doi.org/10.1007/978-3-319-64069-3_11
- Krause, D., Luzzini, D., & Lawson, B. (2018). Building the case for a single key informant in supply chain management survey research.

- Journal of Supply Chain Management*, 54(1), 42–50. <https://doi.org/10.1111/jscm.12159>
- Kull, T. J., Kottlar, J., & Spring, M. (2018). Small and medium enterprise (SME) research in SCM: The case for single-respondent designs. *Journal of Supply Chain Management*, 54(1), 23–34. <https://doi.org/10.1111/jscm.12157>
- Kumar, A., Shankar, A., Behl, A., Gupta, B. B., & Mavuri, S. (2023). Lights, camera, metaverse! Eliciting intention to use industrial metaverse, organizational agility, and firm performance. *Journal of Global Information Management*, 31(8), Article 333169. <https://doi.org/10.4018/JGIM.333169>
- MacKenzie, S. B., & Podsakoff, P. M. (2012). Common method bias in marketing: Causes, mechanisms, and procedural remedies. *Journal of Retailing*, 88(4), 542–555. <https://doi.org/10.1016/j.jretai.2012.08.001>
- MacKenzie, S. B., Podsakoff, P. M., & Podsakoff, N. P. (2011). Construct measurement and validation procedures in MIS and behavioral research: Integrating new and existing techniques. *MIS Quarterly*, 35(2), 293–334. <https://doi.org/10.2307/23044045>
- Marquis, C., & Raynard, M. (2015). Institutional strategies in emerging markets. *Academy of Management Annals*, 9(1), 291–335. <https://doi.org/10.1080/19416520.2015.1014661>
- Mueller-Saegebrecht, S., & Walter, A.-T. (2025). Strategic agility: An urgent capability for successful business model innovation? A conceptual process model and theoretical framework. *Strategic Change*, 34(3), 407–428. <https://doi.org/10.1002/jsc.2645>
- Reed, J. H. (2021). Strategic agility in the SME: Use it before you lose it. *Journal of Small Business Strategy*, 31(3), 33–46. <https://doi.org/10.53703/001c.29734>
- Rozak, H. A., Adhiatma, A., Fachrunnisa, O., & Rahayu, T. (2023). Social media engagement, organizational agility and digitalization strategic plan to improve SMEs' performance. *IEEE Transactions on Engineering Management*, 70(11), 3766–3775. <https://doi.org/10.1109/TEM.2021.3085977>
- Schilke, O. (2014). On the contingent value of dynamic capabilities for competitive advantage: The nonlinear effect of environmental dynamism. *Strategic Management Journal*, 35(2), 179–203. <https://doi.org/10.1002/smj.2099>
- Shin, H., Lee, J. N., Kim, D., & Rhim, H. (2015). Strategic agility of Korean small and medium enterprises and its influence on operational and firm performance. *International Journal of Production Economics*, 168, 181–196. <https://doi.org/10.1016/j.ijpe.2015.06.015>
- Shrivastava, M., & Tamvada, J. P. (2019). Which green matters for whom? Greening and firm performance across age and size distribution of firms. *Small Business Economics*, 52(4), 951–968. <https://doi.org/10.1007/s11187-017-9942-y>
- Srinivasan, M., Srivastava, P., & Iyer, K. N. S. (2020). Response strategy to environment context factors using a lean and agile approach: Implications for firm performance. *European Management Journal*, 38(6), 900–913. <https://doi.org/10.1016/j.emj.2020.04.003>
- Suradi, S., & Hasnawati, S. (2020). The mediating effect of strategic agility in the relationship of supply chain management activities and firm performance of the textile industry of Indonesia. *International Journal of Supply Chain Management*, 9(3), 649–656.
- Teece, D. J. (2007). Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal*, 28(13), 1319–1350. <https://doi.org/10.1002/smj.640>
- Teece, D. J. (2009). *Dynamic capabilities and strategic management* (1st ed.). Oxford University Press.
- Teece, D. J., Peteraf, M., & Leih, S. (2016). Dynamic capabilities and organizational agility: Risk, uncertainty, and strategy in the innovation economy. *California Management Review*, 58(4), 13–35. <https://doi.org/10.1525/cmr.2016.58.4.13>
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509–533. [https://doi.org/10.1002/\(SICI\)1097-0266\(199708\)18:7<509::AID-SMJ882>3.0.CO;2-Z](https://doi.org/10.1002/(SICI)1097-0266(199708)18:7<509::AID-SMJ882>3.0.CO;2-Z)
- Venkatraman, N., & Ramanujam, V. (1986). Measurement of business performance in strategy research: A comparison of approaches. *Academy of Management Review*, 11(4), 801–814. <https://doi.org/10.5465/amr.1986.4283976>
- Vrontis, D., Belas, J., Thrassou, A., Santoro, G., & Christofi, M. (2023). Strategic agility, openness and performance: A mixed method comparative analysis of firms operating in developed and emerging markets. *Review of Managerial Science*, 17(4), 1395–1422. <https://doi.org/10.1007/s11846-022-00562-4>
- Wamba, S. F., Dubey, R., Gunasekaran, A., & Akter, S. (2020). The performance effects of big data analytics and supply chain ambidexterity: The moderating effect of environmental dynamism. *International Journal of Production Economics*, 222, Article 107498. <https://doi.org/10.1016/j.ijpe.2019.09.019>
- Weber, Y., & Tarba, S. Y. (2014). Strategic agility: A state-of-the-art introduction to the special section on strategic agility. *California Management Review*, 56(3), 5–12. <https://doi.org/10.1525/cmr.2014.56.3.5>
- Yildiz, T., & Aykanat, Z. (2021). The mediating role of organizational innovation on the impact of strategic agility on firm performance. *World Journal of Entrepreneurship, Management and Sustainable Development*, 17(4), 765–786. <https://doi.org/10.1108/WJEMSD-06-2020-0070>
- Younis, H., & Sundarakani, B. (2019). The impact of firm size, firm age and environmental management certification on the relationship between green supply chain practices and corporate performance. *Benchmarking: An International Journal*, 27(1), 319–346. <https://doi.org/10.1108/BIJ-11-2018-0363>
- Yuan, C., Xue, D., & He, X. (2021). A balancing strategy for ambidextrous learning, dynamic capabilities, and business model design, the opposite moderating effects of environmental dynamism. *Technovation*, 103, Article 102225. <https://doi.org/10.1016/j.technovation.2021.102225>