

Transformational Leadership and Strategic Agility: Driving Innovation Performance and Business Sustainability for MSMEs in Indonesia in the Post-Pandemic Period

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Abstract

This study examines the influence of transformational leadership and strategic agility on innovation performance and business sustainability among MSMEs in Indonesia's post-pandemic context. Drawing on Transformational Leadership Theory and Strategic Capability Theory, the study positions innovation as a mediating mechanism. Using a quantitative approach with PLS-SEM, data were collected from 238 MSME leaders in the Riau Islands. The results show that transformational leadership positively affects strategic agility ($\beta = 0.743$), which in turn enhances innovation performance ($\beta = 0.423$). Innovation also mediates the relationship between leadership and sustainability ($\beta = 0.104$), and between agility and sustainability ($\beta = 0.117$). These findings underscore the role of leadership and agility as human resource capabilities that drive innovation-led sustainability. The study contributes to the HR and MSMEs literature by highlighting the importance of internal capabilities in fostering resilience and long-term performance. Practical implications are offered for MSME leaders and policymakers seeking to promote innovation and sustainable growth in emerging markets.

Keywords: MSMEs in Indonesia, Strategic Agility, Innovation Performance, Business Sustainability, Transformational Leadership

Introduction

The COVID-19 pandemic has caused profound disruptions to global economies, with Indonesia experiencing severe socioeconomic impacts (Caraka et al., 2020; Mofijur et al., 2021; Olivia et al., 2020). Among the most affected were micro, small, and medium enterprises (MSMEs), which prior to the pandemic, MSMEs contributed 60.34% to the national GDP and absorbed 97% of the workforce in Indonesia (Siswanto, 2023). The pandemic led to sharp declines in revenue, liquidity constraints, and widespread business

closures, threatening the survival of this vital sector (Yusroni & Pratiwi, 2022). As the economy enters a post-pandemic recovery phase, MSMEs face the dual challenge of restoring operations while advancing long-term sustainability goals (Castro & Moreira, 2024; Jha et al., 2024). In this context, strategic agility—defined as an organization's capacity to rapidly respond to change without losing strategic coherence (Doz, 2020)—and transformational leadership—characterized by the ability to inspire and mobilize teams toward change (Lasrado & Kassem, 2021; Li et al., 2019)—are increasingly recognized as critical organizational capabilities for driving innovation and resilience. Yet, empirical studies exploring how these two capabilities interact to influence innovation and sustainability in MSMEs remain limited.

Existing literature has predominantly focused on large corporations in developed economies (Gui et al., 2024; Alrowwad et al., 2020). In contrast, there is limited empirical evidence on how transformational leadership and strategic agility operate in MSMEs across emerging markets such as Indonesia (Lasrado & Kassem, 2021; Awan et al., 2019). Moreover, while innovation performance has been widely examined as a key organizational outcome, its mediating role in linking leadership and agility to sustainability has not been sufficiently addressed (Ahmad et al., 2022; Nabi et al., 2022). This underexplored relationship represents a critical research gap—particularly given the strategic importance of MSMEs in national economic recovery. To address this gap, this study investigates the integrated effects of transformational leadership and strategic agility on innovation performance and business sustainability in Indonesian MSMEs. Specifically, it examines innovation performance as a mediating mechanism through which internal organizational capabilities are translated into sustainable outcomes. In doing so, this research positions leadership and agility as strategic human resource capabilities that are essential to achieving long-term resilience and innovation-driven sustainability within small business contexts.

Literature Review

Theory

Transformational Leadership Theory, introduced by Burns (1978) and further developed by Bass & Riggio (2006), emphasizes a leader's capacity to inspire and mobilize followers through vision, motivation, intellectual stimulation, and individualized consideration. This leadership style fosters innovation by cultivating an adaptive and collaborative organizational culture (Li et al., 2019; Zhu & Huang, 2023). In the context of MSMEs, transformational leaders play a pivotal role in driving change, aligning team efforts, and creating a conducive climate for innovation and strategic responsiveness (Gui et al., 2024; Kolasani, 2023).

Strategic Capability Theory suggest that an organization's long-term success hinges on its ability to develop and deploy key internal resources, including leadership, innovation processes, and knowledge systems (Teece, 2019; Ferreira et al., 2020). Firms with strong dynamic capabilities can realign strategies quickly in response to external shocks while embedding sustainability principles into core operations (Kristoffersen et al., 2021). This theoretical lens underpins the study's focus on agility and innovation as critical mechanisms for sustainable development in MSMEs. As part of strategic human resource management (SHRM), transformational leadership and organizational agility are increasingly recognized as internal HR capabilities that foster innovation and long-term value creation, particularly in MSMEs navigating uncertain environments (Gui et al., 2024; Ahmad et al., 2022).

Hypothesis Development

Transformational leadership is believed to enhance strategic agility by motivating employees, fostering shared vision, and enabling proactive responses to change (Doz, 2020; Alos-Simo et al., 2017). Leaders who model adaptability and support learning are more likely to develop agile teams that can navigate uncertainty and execute rapid shifts in strategy. In this light:

H1: Transformational leadership has a significant positive effect on strategic agility.

Strategic agility refers to a firm's ability to detect, interpret, and respond to market changes swiftly and effectively. In MSMEs, agility supports product innovation, customer responsiveness, and flexible operations—all of which are essential in volatile post-crisis environments (Dayioglu et al., 2024; Franco & Landini, 2022). Agile firms are more capable of leveraging opportunities and reconfiguring processes to drive innovation. Hence:

H2: Strategic agility has a positive effect on innovation performance.

Moreover, transformational leadership may not directly affect innovation alone. Rather, it is through enhanced agility that such leaders influence innovation success. Agile organizations translate leadership intentions into action through rapid resource mobilization and real-time feedback loops (Clauss et al., 2019). Therefore:

H3: Transformational leadership has a positive effect on innovation performance mediated by strategic agility.

Transformational leadership not only fosters agility and innovation but also contributes to broader sustainability outcomes. By promoting a compelling long-term vision, instilling ethical values, and nurturing a proactive, change-oriented organizational culture, transformational leaders create conditions conducive to continuous innovation and resilience (Alrowwad et al., 2020; Becker et al., 2022). Such leadership plays a pivotal role in shaping employee behaviors and organizational mindsets that support innovative thinking and sustainable growth. Thus:

H4: Transformational leadership has a positive effect on Innovation Performance.

Innovation performance, as a capability, plays a mediating role between leadership and sustainability outcomes. Leaders who stimulate innovation indirectly contribute to sustainability by encouraging new, more efficient, and socially conscious solutions (Jiang et al., 2017; Nabi et al., 2022). Accordingly:

H5a: Transformational leadership positively and significantly influences business sustainability.

H5b: Transformational leadership positively affects sustainability with innovation performance mediation.

H5c: Innovation performance has a significant positive effect on business sustainability.

Likewise, strategic agility enables firms to realign strategies and develop sustainable innovations in response to environmental and market shifts. Agile firms tend to implement adaptive processes and business models that respond effectively to evolving sustainability expectations (Kale et al., 2019; El-Khalil & Mezher, 2020a). Therefore:

H6a: Strategic agility has a significant positive effect on business sustainability.

H6b: Strategic agility positively affects business sustainability with innovation performance mediation.

Research Methodology

This study explores the influence of strategic agility and transformational leadership on innovation performance and business sustainability among MSMEs in Indonesia's Riau Islands during the post-pandemic period. A purposive sampling method was used to select approximately 200 MSMEs from food and beverage sectors, focusing on firms affected by the pandemic and led by decision-makers actively involved in innovation. This approach aligns with Hair (2014), who recommends purposive sampling in PLS-SEM-based exploratory research for information-rich cases. The sample size was determined based on a 95% confidence level and 5% margin of error. The study examines four variables: (1) strategic agility, including flexibility and market responsiveness; (2) transformational leadership, reflecting inspirational and change-oriented leadership; (3) innovation performance, measured through product and process innovations; and (4) business sustainability, defined as growth in productivity, revenue, and social contributions—highlighting the enterprise's ability to thrive and create long-term value beyond financial metrics.

Table 1

Variable Measurement

Variable	Measurement Items (Summary)	Source
Transformational Leadership	Demonstrate determination; respected in handling situations; prioritize collective interest; show competence, motivation, and confidence; focus on sustainability; communicate expectations; articulate vision; convey mission.	Zhu & Huang (2023)
Strategic Agility	Adapt to customer needs; iterate products; see change as opportunity; gather feedback; empower ideas; team responsibility; independent decisions; collaboration; effective use of time; involve customers; identify needs; evaluate processes; drive improvements; explore new methods.	Looks et al. (2021)
Innovation Performance	Develop new products; expand variety; grow sales from new products; improve innovation success rate; increase patents.	Williams et al. (2016)
Business Sustainability	Growth in sales, productivity, turnover; social contribution via donations.	Bae & Smardon (2011)

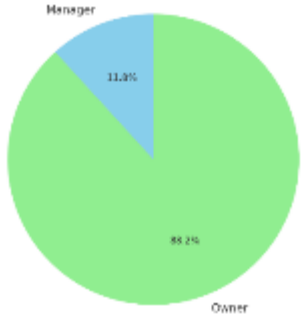
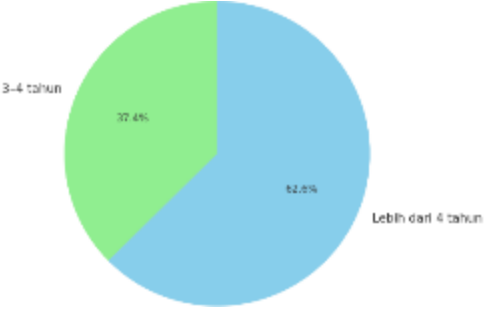
This study used four main constructs—transformational leadership, strategic agility, innovation performance, and business sustainability—measured using items adapted from Zhu & Huang (2023), Looks et al. (2021), Williams et al. (2016), and Bae & Smardon (2011). A five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) was applied. A pilot test involving 20 MSME managers ensured content clarity and face validity. Reliability and validity were assessed using Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE), following Hair et al. (2021). Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS 4.0. PLS-SEM is suitable for exploratory models with mediation and non-normal data (Hair et al., 2021; Sarstedt et al., 2014). The analysis involved both measurement model assessment (validity and reliability) and structural model evaluation (path coefficients, t-values, and mediation effects).

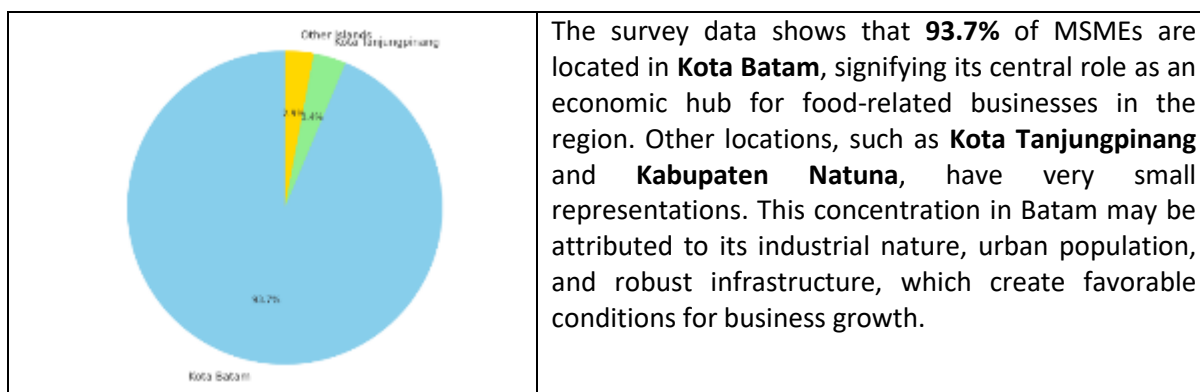
Findings

In this study, data obtained from the distributed questionnaires were analyzed using SmartPLS software. The evaluation process comprised both outer and inner model testing to assess the model's quality. Specifically, the analysis focused on establishing convergent and discriminant validity, evaluating construct reliability, and determining the statistical significance of the relationships hypothesized within the research framework.

Table 2

Descriptive Statistic

Diagram	Conclusion
 A pie chart showing the distribution of respondents by role. The chart is divided into two segments: a large green segment representing 'Owner' at 88.2%, and a smaller blue segment representing 'Manager' at 11.8%.	The research findings reveal that out of the 238 respondents who participated in this survey, 11.8%, or 28 individuals, are managers, while the remaining 88.2%, or 210 individuals, are business owners. This distribution highlights a notable dominance of business owners among the participants, reflecting the entrepreneurial spirit prevalent within the MSME sector in Indonesia, particularly in the post-pandemic era.
 A pie chart showing the distribution of respondents by business duration. The chart is divided into two segments: a blue segment representing 'Lebih dari 4 tahun' at 62.6%, and a green segment representing '3-4 tahun' at 37.4%. There is also a label '3-4 tahun' next to the green segment, which appears to be a typo or a duplicate label.	Most MSMEs (62.6%) have been operating for more than 4 years, indicating a strong representation of well-established businesses within the sample. This is followed by MSMEs with 3–4 years of operation, accounting for 37.4% of the respondents. These figures suggest that the majority of participating MSMEs have substantial experience, which may influence their strategic agility, leadership maturity, and innovation capacity.



Source: Processed Data (2025)

Table 3

Convergent Validity and Reliability

	Cronbach's alpha	Composite reliability (rho a)	Composite reliability (rho c)	Average variance extracted (AVE)
Innovation Performance	0.824	0.827	0.877	0.589
Strategic Agility	0.946	0.947	0.952	0.552
Business Sustainability	0.865	0.87	0.899	0.597
Transformational Leadership	0.9	0.904	0.92	0.589

Source: Processed Data (2025)

Convergent validity and reliability were assessed based on established guidelines (Cheah et al., 2018; Hair et al., 2021). As shown in Table 3, all constructs met acceptable thresholds. Cronbach's alpha values exceeded 0.70, indicating strong internal consistency, with Transformational Leadership scoring highest ($\alpha = 0.900$) and Innovation Performance lowest ($\alpha = 0.824$). Composite reliability (ρ_A and ρ_C) also surpassed 0.70, confirming measurement stability—Strategic Agility had the highest CR ($\rho_C = 0.952$), followed by Leadership (0.920), Sustainability (0.899), and Innovation (0.877). The AVE values for all constructs ranged from 0.552 to 0.597, above the 0.50 benchmark, confirming sufficient convergent validity and robustness of the measurement model.

Table 4

HTMT Ratio

	Innovation Performance	Strategic Agility	Business Sustainability	Transformational Leadership
Innovation Performance				
Strategic Agility	0.789			
Business Sustainability	0.838	0.835		
Transformational Leadership	0.794	0.797	0.796	

Source: Processed Data (2025)

Discriminant validity was assessed using the Heterotrait-Monotrait Ratio (HTMT), which offers greater sensitivity than the Fornell-Larcker criterion (Cheung et al., 2024). As shown in Table 4, all HTMT values were below the 0.90 threshold (Ab Hamid et al., 2017),

confirming adequate discriminant validity. The highest HTMT values observed were: Innovation–Sustainability (0.838), Agility–Sustainability (0.835), and Agility–Leadership (0.797), all indicating sufficient construct distinctiveness for SEM analysis.

Table 5

Hypothesis Test

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values	Significant Result (+/-)	Conclusion
Transformational Leadership -> Strategic Agility	0.743	0.745	0.061	12.245	0.000	Significant Positive (+)	Acceptable
Strategic Agility -> Innovation Performance	0.423	0.420	0.124	3.424	0.001	Significant Positive (+)	Acceptable
Transformational Leadership -> Strategic Agility -> Innovation Performance	0.315	0.312	0.094	3.353	0.001	Significant Positive (+)	Acceptable
Transformational Leadership -> Innovation Performance	0.377	0.385	0.119	3.180	0.001	Significant Positive (+)	Acceptable
Transformational Leadership -> Business Sustainability	0.219	0.218	0.104	2.112	0.035	Significant Positive (+)	Acceptable
Transformational Leadership -> Innovation Performance -> Business Sustainability	0.104	0.101	0.052	1.982	0.048	Significant Positive (+)	Acceptable
Innovation Performance -> Business Sustainability	0.275	0.263	0.106	2.605	0.009	Significant Positive (+)	Acceptable
Strategic Agility -> Business Sustainability	0.407	0.421	0.102	3.980	0.000	Significant Positive (+)	Acceptable
Strategic Agility -> Innovation Performance -> Business Sustainability	0.117	0.106	0.049	2.391	0.017	Significant Positive (+)	Acceptable

Source: Processed Data (2025)

Table 5 presents the hypothesis testing results, with all hypotheses (H1–H6b) showing significant positive effects ($P < 0.05$), indicating their acceptance.

H1 confirms that Transformational Leadership significantly enhances Strategic Agility ($P = 0.000$; $\beta = 0.743$), underscoring leadership's role in fostering agility. H2 shows that Strategic Agility positively influences Innovation Performance ($P = 0.001$; $\beta = 0.423$), affirming agility as a driver of innovation.

H3 supports the mediating role of Strategic Agility between leadership and innovation ($P = 0.001$; $\beta = 0.315$), while H4 reveals a direct positive effect of Transformational Leadership on Innovation Performance ($P = 0.001$; $\beta = 0.377$).

For sustainability outcomes, H5a confirms a direct effect of leadership on sustainability ($P = 0.035$; $\beta = 0.219$), and H5b supports the mediation of Innovation Performance ($P = 0.048$; $\beta = 0.104$). H5c indicates that Innovation Performance directly enhances Business Sustainability ($P = 0.009$; $\beta = 0.275$).

Lastly, H6a and H6b are both supported, showing that Strategic Agility directly ($P = 0.000$; $\beta = 0.407$) and indirectly through Innovation Performance ($P = 0.017$; $\beta = 0.117$) contributes to Business Sustainability.

Results and Discussions

This study confirms that transformational leadership significantly enhances strategic agility (H1), supporting prior views that leadership is a key HR capability for navigating uncertainty (Akkaya & Tabak, 2020; Prabhu & Srivastava, 2023). In Indonesia's MSMEs, where leadership is often owner-driven, inspiring leaders foster flexibility and responsiveness key elements of strategic agility.

Strategic agility, in turn, strongly influences innovation performance (H2), indicating that agile MSMEs can adapt faster and innovate more effectively (Franco & Landini, 2022; Dayioglu et al., 2024). HR practices such as empowerment, cross-functional collaboration, and learning agility support this relationship (AlTaweel & Al-Hawary, 2021). Moreover, agility mediates the link between leadership and innovation (H3), showing that leadership vision must be operationalized through agile, team-based action (Clauss et al., 2019; AlNuaimi et al., 2022).

Transformational leadership also directly improves innovation performance (H4), aligning with HRM literature that highlights leaders' roles in fostering creativity, trust, and psychological safety (Afsar & Umrani, 2020; Nasir et al., 2022). However, its direct impact on sustainability (H5a) is weaker, suggesting an indirect route via innovation (H5b), which reflects how strategic HR systems must convert leadership vision into capability (Nabi et al., 2022; Mohammed & AL-Abrow, 2023).

Innovation performance significantly drives sustainability (H5c), reaffirming innovation as a key pathway to long-term viability in MSMEs (Burawat, 2019; Awan et al., 2019). This is enabled by HR practices that promote creativity, autonomy, and continuous development (Zhu & Huang, 2023). Strategic agility also directly contributes to sustainability

(H6a), with HR mechanisms like feedback loops and adaptive decision-making playing a crucial role (Kale et al., 2019; El-Khalil & Mezher, 2020b).

Finally, innovation mediates the effect of agility on sustainability (H6b), emphasizing that agility must be channeled into innovation through HR-enabled processes like co-creation and team collaboration (Kiranantawat & Ahmad, 2023; Guo et al., 2023). Thus, innovation serves as the critical link transforming internal capabilities into sustainability outcomes. In sum, the findings suggest that transformational leadership and strategic agility are HR-centric drivers of innovation and sustainability. For MSMEs, building these capabilities through targeted HR practices such as leadership development, team empowerment, and innovation-friendly culture can enhance resilience and long-term performance. For policymakers, the study highlights the need to strengthen HR infrastructure and innovation ecosystems across the MSME sector in Indonesia (Ahmad et al., 2022; Castro & Moreira, 2024; Jha et al., 2024).

Conclusions

This study confirms that transformational leadership and strategic agility are significant enablers of innovation performance and business sustainability in Indonesian MSMEs. Innovation serves as a key mediating mechanism that translates leadership and agility into long-term outcomes. The findings position these variables as strategic human resource capabilities essential for resilience and competitiveness in post-crisis environments. For MSME practitioners and policymakers, the results offer actionable insights for developing HR-led strategies to foster adaptive, innovative, and sustainable organizations.

Future studies should explore longitudinal data to capture changes over time and include MSMEs from different regions or sectors for broader generalization. Incorporating qualitative methods or mixed approaches may also uncover deeper insights into how HR practices shape innovation and sustainability. Additional moderators, such as organizational culture or digital readiness, could be examined to enrich the model.

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