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Entrepreneurial Orientation, Agility, and Sustainable Performance in Indonesian SMEs

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Abstract

Background: Small and Medium Enterprises (SMEs) are vital contributors to economic development, employment generation, and innovation. However, SMEs in Indonesia face escalating sustainability challenges driven by digital transformation, shifting consumer behavior, and intensifying global competition, necessitating an examination of the strategic capabilities that underpin long-term sustainable performance.
Objective: This research examines how *Entrepreneurial Orientation* (EO), as the independent variable, affects sustainable business performance and investigates the role of pro-growth *entrepreneurial agility* as the mediating variable in the EO–SBP relationship among Indonesian SMEs.
Methods: This research uses a quantitative approach and applies PLS-SEM to analyze data collected from 300 SME owners across different business sectors. Before testing the proposed model, the reliability and validity of the measurement instruments were carefully evaluated.
Results: The results reveal that *entrepreneurial orientation* has a positive impact on sustainable business performance and *entrepreneurial agility*. This confirms the fully developed mediating role of *entrepreneurial agility* and suggests that SMEs need to develop both an entrepreneurial mindset and dynamic capabilities to achieve long-term sustainability.
Conclusion: This study conceptualizes and measures *entrepreneurial agility*, confirming it as a key mediating factor in the relationship between *entrepreneurial orientation* and sustainable performance, thus contributing to Dynamic Capabilities Theory. The results provide useful implications for stakeholders, such as owners of micro, small, and medium enterprises, as well as policymakers, to strengthen entrepreneurship education and operational capabilities.

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INTRODUCTION

The most interesting thing about Small and Medium Enterprises (SMEs) is that they can evolve creatively, quickly developing the capacity to support both their own economic development and that of the broader economy. In this way, these companies become major providers of employment, important innovators, and significant contributors to Indonesia's national income (Bansal & Song, 2017; Camilleri, 2017; Cristobal-Cipriano et al., 2022). Among the largest SME ecosystems in Southeast Asia, Indonesia's SME sector is an inseparable component of the country's integrated and inclusive economic growth engine, contributing more than 60% of total GDP and accounting for an employment absorption rate of more than 97% of the national workforce (Yadegaridehkordi et al., 2023). However, despite their macroeconomic importance, SMEs in many cases have operated for years under significant limitations in capital, technology, and managerial capacity, reducing their competitiveness in increasingly complex

markets. In recent years, these challenges have been compounded by the rapid pace of digitization, changing consumer preferences, and rising stakeholder pressure for socially and environmentally responsible business practices. *Sustainable Business Performance* (SBP), encompassing economic viability, social responsibility, and environmental stewardship, has therefore become one of the most important strategic goals pursued by SMEs seeking sustainable competitive advantage (Yadegaridehkordi et al., 2023).

Exploratory findings from the preliminary data collection in this study show that SME owners reported difficulties in maintaining operational stability over extended periods, particularly during turbulent and volatile market conditions. Rapid changes in consumer preferences, increasing input and operational costs, and growing competitive pressure from both local and foreign competitors were consistently mentioned by many interviewees as factors necessitating continuous and largely reactive strategic adjustments. At a minimum, these preliminary findings indicate that internal strategic orientation and organizational capability not only influence the adaptive responsiveness of SMEs but also determine their ability to respond effectively to external environmental changes. Failure to sense market shifts and adjust internal processes accordingly may limit even the most entrepreneurially oriented SMEs from achieving sustained economic, social, and environmental performance.

Entrepreneurial Orientation (EO), in the context of this research, is defined as a firm-level strategic posture comprising three dimensions: innovativeness, proactiveness, and risk-taking (Lumpkin & Dess, 1996; Prastiwi & Rohimat, 2020; Rauch et al., 2009). EO has long been recognized as a core predictor of firm performance. Firms that demonstrate strong entrepreneurial orientation are more likely to proactively recognize and seize emerging market opportunities ahead of competitors, continuously innovate in products, services, and business models, and adapt more swiftly to changes in the competitive landscape. This strategic posture provides a clear advantage in highly uncertain environments, where the ability to anticipate and capitalize on change is often more important than operational efficiency alone. Recent empirical evidence further supports this proposition by identifying EO as a direct driver of environmental innovation, stakeholder-oriented decision-making, and long-term strategic thinking that extends beyond short-term financial returns (Coelho et al., 2024; Khan et al., 2023). These developments necessitate closer scientific scrutiny of the EO–sustainable performance nexus, particularly within SME contexts such as Indonesia, where sustainability pressures continue to intensify alongside economic development imperatives.

However, prior studies repeatedly suggest that entrepreneurial orientation alone does not guarantee long-term sustainability outcomes. This is particularly true for many SMEs that possess strong entrepreneurial intentions and strategic aspirations but struggle to convert them into sustainable competitive advantages due to limited organizational flexibility, low adaptive capacity, and the absence of systematic mechanisms for effectively operationalizing strategic change (Gamble et al., 2021). The gap between ambitious strategic aspirations and actual sustainable performance appears especially significant in dynamic and uncertain environments, where rapidly changing market conditions require not only strategic insight but also organizational capability to translate vision into timely and effective operational action. This gap highlights a key theoretical and practical issue: identifying the conditions and mechanisms through which EO influences sustainable performance remains highly relevant for both academic inquiry and evidence-based policy design.

From the perspective of *Dynamic Capabilities Theory*, organizational agility serves as a fundamental higher-order capability that enables firms to sense changes in the external environment, seize emerging economic opportunities, and transform internal resources and processes in response to evolving market demands (D. Teece et al., 2016). According to *Dynamic Capabilities Theory*, competitive advantage in volatile environments does not arise merely from possessing superior resources but from firms' ability to systematically reconfigure those resources in alignment with environmental requirements. Within this theoretical framework, *Pro-Growth Entrepreneurial Agility* (PGEA) represents a firm's ability to respond rapidly and effectively to market changes, adjust business processes with minimal disruption, access emerging growth opportunities, and maintain strategic momentum over the long term (Wilden et al., 2016). In summary, PGEA constitutes an essential organizational capability for

Indonesian SMEs operating in highly volatile and digitally disrupted industries because it enables entrepreneurial orientation to be translated into measurable and sustainable performance outcomes.

Despite the growing body of literature on entrepreneurial orientation, agility, and sustainability-related variables, a clear empirical gap remains. Few studies have examined the mediating role of entrepreneurial agility in the relationship between EO and sustainable business performance, particularly within the Indonesian SME context and from the perspective of *Dynamic Capabilities Theory* (Salehe et al., 2024). Existing studies have generally examined these constructs either independently or within developed-economy settings, providing limited empirical explanation of the sequential mechanisms through which EO fosters sustainable performance through the activation of organizational agility in emerging economies. This gap carries important theoretical and practical implications because it limits evidence-based guidance for policymakers and SME development practitioners regarding the organizational capabilities most critical for strengthening the relationship between entrepreneurial orientation and sustainable outcomes.

To address this gap directly, the present study examines the mediating role of *Pro-Growth Entrepreneurial Agility* in the relationship between EO and *Sustainable Business Performance* among Indonesian SMEs, thereby providing new empirical evidence to extend *Dynamic Capabilities Theory* within an emerging economy context. The study theoretically identifies and empirically examines the sequential mechanisms through which EO generates long-term performance outcomes, expanding the application of *Dynamic Capabilities Theory* into a relatively underexplored empirical setting. Practically, the findings are expected to provide valuable guidance for SME owners seeking to strengthen organizational adaptability and for policymakers and development institutions designing capacity-building programs that integrate entrepreneurship education with agility development initiatives. Accordingly, this study pursues three specific objectives: (1) to investigate the direct effect of entrepreneurial orientation on sustainable business performance; (2) to examine the mediating effect of *Pro-Growth Entrepreneurial Agility* in the EO–SBP relationship; and (3) to provide evidence-based recommendations for Indonesian SMEs and policy stakeholders.

Based on the theoretical and empirical gaps identified above, this study proposes the following hypotheses:

1. H1: *Entrepreneurial Orientation* has a positive effect on *Sustainable Business Performance*.
2. H2: *Entrepreneurial Orientation* has a positive effect on *Pro-Growth Entrepreneurial Agility*.
3. H3: *Pro-Growth Entrepreneurial Agility* has a positive effect on *Sustainable Business Performance*.
4. H4: *Pro-Growth Entrepreneurial Agility* mediates the relationship between *Entrepreneurial Orientation* and *Sustainable Business Performance*.

METHOD

The following study utilizes a quantitative research design with a survey-based methodology and examines the interrelationship between Entrepreneurial Orientation (EO), Pro-Growth Entrepreneurial Agility (PGEA), and Sustainable Business Performance (SBP). The data source consisted of SME owners from various business sectors in Indonesia. A purposive sampling technique was used to ensure that the respondents actively managed their enterprises and had direct experience with organizational strategy and operations.

Data were collected through a structured questionnaire administered both online (Google Forms) and offline. Respondents were informed about the goals of the research and were given assurances of data confidentiality prior to participation, in line with basic ethical standards. Three hundred valid questionnaires were collected and used for quantitative analysis. Qualitative insights were subsequently obtained through semi-structured interviews conducted with a purposively selected sample of 15 owners from different business sectors, providing contextual understanding of how EO, agility, and sustainable performance are associated.

A five-point Likert scale (1 = strongly disagree; 5 = strongly agree) was used for all measurement items. EO was measured in line with the operationalization proposed by Lumpkin & Dess (1996), which includes innovativeness, proactiveness, and risk-taking. PGEA was

measured through opportunity sensing, environmental responsiveness, and resource reconfiguration (Wilden et al., 2016). SBP was measured in terms of economic, environmental, and social performance (Elkington, 1998). PLS-SEM was employed because it is suitable for developing and predicting complex mediation models (Hair et al., 2019). The data were analyzed using SmartPLS 4.0. The analysis was conducted in two subsequent stages.

The measurement model was first evaluated for internal consistency (Cronbach's alpha and composite reliability), convergent validity (AVE ≥ 0.50), and discriminant validity using the HTMT ratio criterion (Hair et al., 2019). Subsequently, the structural model was evaluated using path coefficients, R^2 values, effect sizes (f^2), and bootstrapping (5,000 resamples) (Ringle et al., 2022).

RESULTS AND DISCUSSION

Results

Respondent Profile

The number of valid responses for the analysis was 300. The demographic profile indicates that most respondents were female (61.7%) and aged 18–28 years (52.33%), indicating a predominance of young women in the sample of entrepreneurs. Most enterprises had been in operation for one to three years (33.7%), and the majority (67%) employed 1–5 employees, which is consistent with the micro-enterprise classification that dominates Indonesia's SME landscape. These features have theoretical implications, as the relatively high digital literacy and openness to innovation among young entrepreneurs are expected to strengthen the Entrepreneurial Orientation–PGEA relationship. The preponderance of early-stage ventures highlights the need for adaptive capabilities in the nascent stage of SME development, empirically validating this study's agility-based theoretical framework.

Table 1. Respondent Profile

Criteria	Sub-Criteria	Frequency	Percent
Gender	Male	115	38.3%
	Female	185	61.7%
Age	18-28 years	157	52.33%
	29-44 years	115	38.33%
	44-60 years	25	8.33%
	>60 years	3	1%
Length of Business	Below 1 years	54	18%
	1-3 years	101	33.7%
	3-5 years	67	~~22.3~~22.3%
	5-10 years	45	15%
	Above 10 years	33	11%
Number of Employees	0 peoples	27	9%
	1–5 employees	201	67%
	6–10 employees	25	8.33%
	11–20 employees	22	7.33%
	Above 20 employees	25	8.33%

Source: Data Processed.

Table 1 summarises the demographics of the 300 respondents who took part in this study. The sample was mainly female (n = 61.7%). Looking at the age-range data, we see that 52.33% of respondents are young entrepreneurs/earners in the 18–28 age bracket and consist primarily of Millennial and Gen Z entrepreneurs, who are generally more open to innovation through new digital touchpoints as well as agile business practices. Regarding the business life cycle stage, the largest proportion of respondents (33.7%) indicated that they had operated their businesses for between 1 and 3 years, suggesting that this sample overrepresents early-stage businesses that are still in the process of establishing organizational routines and competencies. Since microenterprises dominate the sample (67% of respondents employ only one to a few staff

members), these resource constraints suggest not only that the development of entrepreneurial agility is difficult for this tier, but also that it is a strategic imperative.

Measurement Model Evaluation

We assessed the measurement model for internal consistency reliability, as well as convergent and discriminant validity, following established PLS-SEM guidelines (Hair et al., 2019). The measurement model assessment indicates that all constructs met the previously established reliability and validity standards. Internal consistency was tested using Cronbach's alpha, with all values exceeding the recommended threshold of 0.70 for well-established measures. For convergent validity, all Average Variance Extracted (AVE) values were greater than 0.50, confirming that convergent validity was established. Table 2 is incomplete because Composite Reliability (CR) values, which should be included as part of a comprehensive assessment based on PLS-SEM reporting guidelines (Hair et al., 2019), have not yet been reported. Include CR, Cronbach's alpha, rho_A, and AVE in Table 2 by adding a dedicated CR column.

Table 2. Construct Reliability and Validity

Construct	Cronbach's Alpha	rho_A	AVE
EO	0.817	0.824	0.578
PGEA	0.881	0.882	0.678
SBP	0.837	0.838	0.606

Source: Data Processed

Table 2 presents the construct reliability and convergent validity indicators. Specifically, all Cronbach's alpha values exceed the widely accepted threshold of 0.70 (PGEA reaches 0.881, SBP 0.837, and EO 0.817), confirming adequate internal consistency for each construct. The rho_A values are also acceptable, aligning closely with the Cronbach's alpha values and indicating stable and coherent measurement structures. Moreover, all Average Variance Extracted (AVE) values are above the recommended threshold of 0.50 proposed by Fornell & Larcker (1981), with PGEA demonstrating the highest level of convergent validity (AVE = 0.678), followed closely by SBP (0.606) and EO (0.578). Collectively, these results confirm the reliability and validity of the measurement instruments in capturing the theoretical constructs they are intended to measure, thereby providing a solid basis for structural model evaluation. Discriminant validity was assessed using the Heterotrait–Monotrait (HTMT) ratio. The results show that all HTMT values are below the 0.90 threshold, indicating that the constructs are empirically distinct and measure different concepts.

Table 3. Discriminant Validity (HTMT)

Construct Pair	HTMT
EO-PGEA	0.894
EO-SBP	0.813
PGEA-SBP	0.833

Source: Data Processed

HTMT results between all constructs are shown in Table 3. The highest HTMT value, 0.894, exists between Entrepreneurial Orientation (EO) and Pro-Growth Entrepreneurial Agility (PGEA). Although this value is close to the threshold of 0.90, it remains slightly below the acceptable limit, confirming the conceptual closeness yet empirical distinctiveness of entrepreneurial orientation and entrepreneurial agility as two separate theoretical constructs. The HTMT value for the EO–SBP pair is 0.813, whereas the PGEA–SBP pair shows a value of 0.833, both of which remain below the recommended threshold. Taken together, these results provide strong confirmation that EO, PGEA, and SBP despite being theoretically interconnected as dynamic capabilities were measured as discrete, non-redundant constructs, thereby providing further evidence for the validity of the proposed three-variable mediation model.

Structural Model Evaluation

The structural model was evaluated by examining the path coefficients, R^2 values, effect sizes (f^2), and predictive relevance. The R^2 value for Pro-Growth Entrepreneurial Agility was 0.585, indicating that Entrepreneurial Orientation explains 58.5% of the variance in Pro-Growth Entrepreneurial Agility. The R^2 value for Sustainable Business Performance was 0.553, suggesting substantial explanatory power.

The structural model analysis demonstrates that entrepreneurial orientation explains a substantial proportion of the variance in pro-growth entrepreneurial agility. Furthermore, entrepreneurial orientation and entrepreneurial agility jointly explain more than half of the variance in sustainable business performance. These findings indicate that the proposed model possesses strong explanatory power.

Table 4. Coefficient of Determination (R^2)

Construct	R^2	Adjusted R^2
PGEA	0.585	0.583
SBP	0.553	0.550

Source: Data Processed

The R^2 and adjusted R^2 values of the two endogenous constructs in the structural model are presented for all models (Table 4). Pro-Growth Entrepreneurial Agility (PGEA) exhibits a moderate R^2 value (0.585), indicating that Entrepreneurial Orientation (EO) alone explains approximately 58.5% of the variance in pro-growth entrepreneurial agility, a result confirmed as substantial according to Cohen (2013) criteria for effect size (0.26 = medium; see figure below). This finding emphasizes the importance of entrepreneurial strategic orientation and its effect on developing organizational adaptive competencies and capabilities. For Sustainable Business Performance (SBP), the R^2 value of 0.553 reveals that EO and PGEA jointly account for 55.3% of the variation in sustainable business performance. The adjusted R^2 value (0.550) indicates that this explanatory power is robust and not artificially inflated by model complexity. Overall, these R^2 values suggest that the proposed theoretical model demonstrates good predictive validity and comprehensive explanatory power within the context of Indonesian SMEs.

Path coefficient analysis reveals that all hypothesized relationships are statistically significant. Entrepreneurial Orientation has a strong positive effect on Pro-Growth Entrepreneurial Agility and a moderate direct effect on Sustainable Business Performance. In addition, Pro-Growth Entrepreneurial Agility demonstrates a strong positive effect on Sustainable Business Performance.

Table 5. Path coefficient

Path	β	Result
EO->PGEA	0.765	Supported
EO->SBP	0.319	Supported
PGEA->SBP	0.471	Supported

Source: Data Processed

Table 5 displays the full structural model and standardized path coefficients, whereby all three paths reach significance at the $p < 0.001$ level based on the bootstrapping results. Most notably, the strongest path coefficient ($\beta = 0.765$) is found between Entrepreneurial Orientation (EO) and Pro-Growth Entrepreneurial Agility (PGEA), thus showing that entrepreneurial orientation has a strong and statistically significant positive effect on pro-growth entrepreneurial agility, thereby supporting H2. This indicates that SMEs with higher innovativeness, proactiveness, and risk-taking propensity are significantly more likely to have developed and deployed agile organizational capabilities. The path from Pro-Growth Entrepreneurial Agility (PGEA) to Sustainable Business Performance (SBP) ($\beta = 0.471$) indicates that entrepreneurial agility has a moderately strong and significant positive effect on sustainable business performance, thereby supporting H3. Although smaller, the direct effect from EO to SBP ($\beta = 0.319$) remains statistically significant and therefore supports H1, indicating that EO contributes

to sustainable business performance both directly and through the mediation of PGEA. Effect size analysis indicates that EO has a large effect on Pro-Growth Entrepreneurial Agility, while Pro-Growth Entrepreneurial Agility has a medium effect on Sustainable Business Performance.

Table 6. Effect Size (f^2)

Relationship	f^2	Effect
EO->PGEA	1.409	Large
EO->SBP	0.094	Small
PGEA->SBP	0.206	Medium

Source: Data Processed

Table 6 contains the effect size values (f^2) of each path in the structural model, which allow us to measure the practical significance of these relationships beyond statistical significance. A direct f^2 value of 1.409 for the EO → PGEA path indicates a strong effect size according to Cohen (2013) rules of thumb ($f^2 \geq 0.35$ = large), establishing that EO provides a substantial and substantively significant influence on pro-growth entrepreneurial agility development. Such a large effect size lends theoretical support to the role of entrepreneurial orientation as the primary antecedent of organizational agility from a dynamic capabilities perspective. Furthermore, the medium effect size for the PGEA → SBP path ($f^2 = 0.206$) indicates that pro-growth entrepreneurial agility provides a practical and substantial improvement in sustainable business performance beyond effects attributable solely to statistical significance. The direct relationship between EO and SBP showed the smallest effect size ($f^2 = 0.094$), and the interpretation of this relationship as partial mediation demonstrates that the pathway mediated by PGEA is more appropriate than relying solely on the direct EO → SBP relationship.

Mediation Analysis

This approach follows the recommended procedures for mediation testing in PLS-SEM (Hair et al., 2019). The indirect effect of EO on Sustainable Business Performance through Pro-Growth Entrepreneurial Agility was significant ($\beta = 0.360$, $p < 0.001$), indicating partial mediation. The mediation analysis showed that pro-growth entrepreneurial agility partially mediates the relationship between entrepreneurial orientation and sustainable business performance. This finding means that entrepreneurial orientation affects sustainable business performance both directly and indirectly through pro-growth entrepreneurial agility.

Table 7. Indirect Effects

Relationship	β	Result
EO->PGEA->SBP	0.360	Partial Mediation

Source: Data Processed

As shown in Table 7, the large indirect effect ($\beta = 0.360$, $p < 0.001$) provides empirical evidence that Pro-Growth Entrepreneurial Agility mediates the EO–SBP relationship with practical importance and statistical rigor, thus supporting H4. The partial mediation pattern (where the direct EO → SBP path remains significant alongside the significant indirect path) suggests that EO impacts sustainable business performance through two interrelated pathways. First, it influences organizational agility, which then explains part of the variance in sustainable business performance. This reflects a theory-based explanation involving immediate and persistent positive value-creation effects derived from entrepreneurial strategic posture (direct pathway), as well as an indirect pathway wherein EO first enhances organizational agility before improving sustainable performance. Thus, this finding of partial mediation supports dynamic capabilities theory, which contends that strategic orientations are most effective when embedded as organizational capabilities for adaptive intent rather than relying solely on espoused strategic intent.

Discussion

The results demonstrate that Entrepreneurial Orientation (EO) has a significantly positive effect on Sustainable Business Performance (SBP) among Indonesian SMEs ($\beta = 0.319$, $p < 0.001$). Small and medium-sized enterprise (SME) owners who are more innovative, proactive, and risk-tolerant tend to achieve better economic, social, and environmental performance. This finding is consistent with previous empirical research by Rauch et al. (2009), whose meta-analysis of 51 studies showed a strong relationship between EO and performance across diverse organizational and cultural contexts (Wales et al., 2021). The findings of this study further support the arguments made by Kreiser et al. (2021) that EO remains a useful predictor of firm-level performance even in rapidly changing and competitive environments. Our findings demonstrate that EO generates significant value for SBP not only through financial performance measures but also through social responsibility and environmental sustainability, as indicated by the importance of the direct effect ($\beta = 0.319$). From an entrepreneurially oriented SME perspective, firms are encouraged to adopt a broader and more multilayered view of business success in accordance with the Triple Bottom Line (Elkington, 1998).

However, these outcomes also confirm mounting evidence that EO alone does not provide the necessary and sufficient conditions for long-term sustainable success in the absence of adaptive organizational capabilities (Gamble et al., 2021). Strategic orientations characterized by innovation and proactiveness should be embedded within organizational mechanisms that enable firms to sense environmental changes more rapidly, reconfigure internal assets more efficiently, and adapt business processes in a timely manner, particularly in dynamic, complex, or uncertain market environments. Without such mechanisms, even SMEs with strong entrepreneurial orientations may struggle to convert strategic intentions into realized and sustained performance. The limitation of EO as an independent predictor further emphasizes the empirical justification for including PGEA as a mediator in our model.

Qualitative insights gathered during the data collection process further illuminated the mediating role of PGEA. Several respondents noted that, although they possessed promising business concepts and strong intentions to take purposeful risks, they were consistently constrained by their inability to adapt internal processes quickly enough to match the pace of external change. The most commonly shared narratives involved promising ventures that became stagnant, not because of a lack of vision or ambition, but because of insufficient organizational flexibility, processes, or capabilities to pivot effectively. These narratives support the quantitative finding that PGEA partially mediates the relationship between EO and SBP (indirect $\beta = 0.360$, $p < 0.001$), confirming that organizational mechanisms in this case, entrepreneurial agility enable firms to translate entrepreneurship-inspired strategic intent into improved firm performance.

SMEs that were able to respond quickly and efficiently to changing competitive pressures were better positioned than those that failed to adapt. Firms capable of reorganizing human and financial resources in near real time, while continuously aligning operational practices with evolving market demands, were more successful in converting entrepreneurial orientation into meaningful sustainability gains. This finding is consistent with the central premise of dynamic capabilities theory (D. J. Teece et al., 1997), which argues that competitive advantage does not persist solely because of superior resources or strategic orientations, but rather through a firm's ability to identify changes in the external environment and respond appropriately by reconfiguring internal resources. Therefore, dynamic reconfiguration emerges as a core strategic capability for Indonesian SMEs, particularly in the context of market volatility, policy uncertainty, and digital disruption.

The narratives collected from respondents consistently highlighted the importance of digital adaptation, which is now considered a baseline capability. Many participants informally explained during interviews that their operational survival depended on learning how to operate online, adopt e-commerce platforms, and respond rapidly to changing consumer behavior. These qualitative observations contextualize the quantitative findings. In uncertain environments characterized by supply chain disruptions and demand–supply imbalances, SMEs that adapted technology and modified internal processes more rapidly performed better than their counterparts. This finding aligns with previous studies linking digital agility indicators to sustainable SME performance (Coelho et al., 2024; Khan et al., 2023) and raises the possibility that

transformation readiness may function as a key driver of the pro-growth entrepreneurial agility dimension, although this proposition requires further empirical validation.

Finally, EO has a significant positive relationship with PGEA ($\beta = 0.765$, $p < 0.001$), suggesting that more innovative and proactive entrepreneurs tend to cultivate adaptive behaviors and continuous learning practices. Entrepreneurial SME owners are highly likely to foster a culture of experimentation within their firms, where failure is accepted and continuous learning becomes a prerequisite—the foundational building blocks of organizational agility. This orientation translates into greater tolerance for product experimentation, testing alternative distribution channels, forming strategic alliances, and embedding digital technologies into everyday operations. Collectively, these behaviors strengthen organizational resilience and contribute to improved sustainability outcomes over the long term in competitive and uncertain market environments.

The theoretical and practical implications of these findings are important to consider. Theoretically, the findings extend dynamic capabilities theory into the specific context of Indonesian SMEs in an emerging economy by empirically demonstrating that PGEA serves as a capability-level mechanism linking entrepreneurial strategic orientation and sustainable firm performance. This research addresses an identified gap in the literature, as the mediating role of agility in the EO–sustainability relationship has received limited scholarly attention (Salehe et al., 2024), particularly in SME contexts within Southeast Asia.

From a managerial perspective, these results suggest that SME capacity-building initiatives should extend beyond a narrow focus on entrepreneurship promotion to encompass structured agility development informed by dynamic capabilities theory (D. J. Teece et al., 1997). The findings indicate the need for SME support institutions and government agencies to develop integrated programs that include agile and practical training elements within entrepreneurship education. Such programs may include scenario-planning exercises that expose SME owners to diverse environmental contingencies while teaching effective response strategies; rapid prototyping methodologies that accelerate the development and testing of new products and processes; and adaptive resource-management frameworks that enable SMEs to redeploy human, financial, and technological resources in response to emerging market opportunities and threats. These programs would strengthen individual entrepreneurial capabilities while simultaneously creating the organizational context necessary for continuously realizing those capabilities. Ultimately, the goal should not merely be entrepreneurially driven strategies for SME sustainability performance, but also the development of organizational agility capable of translating innovative mindsets into resilience across economic, social, and environmental dimensions simultaneously.

CONCLUSION

This study concludes that EO exerts a significant positive effect on SBP among Indonesian SMEs, both directly ($\beta = 0.319$) and indirectly through PGEA as a partial mediator (indirect $\beta = 0.360$). These results support the hypothesis that organizational agility must coexist with an entrepreneurial mindset in order to drive long-term sustainability outcomes. This study offers an important contribution to dynamic capabilities theory by demonstrating that PGEA mediates the EO–SBP relationship, supported by novel evidence from Indonesian SME contexts. At a practical level, SMEs need to invest in adaptive organizational routines that develop digital capabilities, rapid decision-making protocols, and cross-functional teamwork. Policymakers and development institutions should incorporate agility training particularly in design thinking, technology adoption incentives, and agile management into entrepreneurship support programs in order to maximize the long-term sustainability value of new businesses.

This study has several limitations. The cross-sectional design does not permit causal inference or the examination of longitudinal dynamics. The reliance on self-reported measures may introduce common method bias. In addition, the sample is limited to a specific geographic region; therefore, the findings may not be fully generalizable. Future studies should employ longitudinal research designs to capture temporal dynamics, while mixed-method approaches, including in-depth interviews, could provide richer contextual understanding. Expanding the geographic scope to other ASEAN economies, or examining moderating variables such as

environmental dynamism, institutional support, or digital maturity, may further enhance conceptual understanding of the EO–PGEA–SBP relationship.

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AUTHOR CONTRIBUTION STATEMENT

Justin Wijaya was responsible for conceptualization, data collection, analysis and the writing of the original draft. Conceptualization, Theoretical development and methodology were performed by Denny Bernardus Kurnia Wahyudono; Designed the dashboard platformChristian Herdinata; Projects administered and supported Manuscript preparation supervision. All authors contributed to the final validation and approved of the manuscript for publication.

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