SENTRALISASI
UNIVERSITAS MUHAMMADIYAH SORONG
https://ejournal.um-sorongac.id/index.php/sentralisasi
p-ISSN 1979-7567
e-ISSN 2614-4328

Bridging Market Orientation to SME Sustainability Performance: Examining Innovation Capabilities Through A Dynamic Capabilities Approach

Teresa Samantha Satyanegara[1], Adi Kurniawan Yusup[2*]

[1, 2] Universitas Ciputra Surabaya, Indonesia

Article Info

Article history:

Received, 22-09-2025
Revised, 25-11-2025
Accepted, 09-12-2025

Keywords:

SMEs, Dynamic Capabilities Theory, Market Orientation, Innovation Capabilities, Business Performance

ABSTRACT

SMEs are the backbone of Indonesia's economy, yet they continue to face structural and sustainability challenges. As such, the purpose of this study is to examine how responsive and proactive market orientations impact SMEs' environmental and financial performance through the mediation of product and process innovation capabilities, and the moderation of market turbulence, grounded in Dynamic Capabilities Theory. This quantitative research used purposive sampling to collect data from 115 SME owners and managers across various industries in Java Island. The data was analyzed using Partial Least Squares Structural Equation Modeling to test the hypotheses. The results showed that a proactive market orientation has a significant impact on financial performance through process innovation capabilities and environmental performance. Contrarily, market turbulence did not moderate the relationship between innovation capabilities and financial performance. This research highlights the importance of proactive market orientation and process innovation capabilities to improve SME sustainability and performance. Based on this study's findings, SMEs should invest in strengthening their proactive market orientation and process innovation capabilities to achieve sustainability and gain a lasting competitive advantage in the industry.

Corresponding Author:

Adi Kurniawan Yusup
School of Business and Management, Universitas Ciputra, Surabaya, Indonesia
CitraLand CBD Boulevard, Made, Kec. Sambikerep, Surabaya, Jawa Timur 60219
Email: *adi.kurniawan@ciputra.ac.id

SENTRALISASI
UNIVERSITAS MUHAMMADIYAH SORONG
https://ejournal.um-sorongac.id/index.php/sentralisasi
p-ISSN 1979-7567
e-ISSN 2614-4328

Introduction

Small and medium-sized enterprises (SMEs) play a crucial role in driving the global economy, accounting for 90% of businesses, employing 70% of the workforce, and contributing up to 50% of global GDP [26]. Yet, recent developments, such as the COVID-19 pandemic followed by global conflicts among developed countries, have challenged SMEs' sustainability by disrupting supply chains, restricting operations, and accelerating a digital shift that most were unprepared for due to low digital literacy and high costs [34], [46]. At the same time, global efforts by world organizations to tighten environmental regulations due to worsening climate conditions have also raised operational costs, further straining SME competitiveness, especially in export markets [15], [25]. Due to limited available resources, along with weak strategic and financial management compared to established corporations, these challenges have made it difficult for SMEs, as the backbone of the global economy, to survive beyond three to five years [21].

These global trends are intensified in Indonesia. SMEs play a large role in Indonesia's economy, contributing 61% to the nation's GDP and employing 97% of the workforce; despite this, structural constraints continue to prevail [31]. Following the pandemic, the growing number of SMEs reports declining performance, with 84.2% experiencing reduced sales and 36.7% having none at all [8], [47]. Unlike SMEs in developed economies, Indonesian SMEs face limited institutional support, access to finance, and digital readiness, which could have supported operations during difficult times [40]. With this added challenge, Indonesian SMEs must strengthen their internal capabilities to be resilient and competitive with market demands.

Business performance is a business's measurable outcomes, traditionally measured through financial metrics such as profitability, sales growth, and market share [16], [18]. However, financial metrics alone are insufficient. Given SMEs' large contribution to greenhouse gas emissions, environmental performance has gained importance [2]. Yet Indonesian SMEs rarely prioritize it, despite evidence that sustainability enhances

reputation, efficiency, and customer loyalty, and reduces environmental fines, boosting business performance by 34.6% [44], [63]. Eco-friendly production and operation require less energy, waste, and resources, which reduces cost. Subsequently, consumers' growing concerns for the world's climate crisis also increase allegiance to brands that promote green products and practices; therefore, increasing revenue growth of such companies, while companies that abandon green practices may suffer from backlash and fines, which results in a possibility of declining reputation and sales [6]. This study, therefore, uses both financial (FP) and environmental performance (EP) to assess business performance.

Research highlights that business performance is strongly influenced by market orientation [18], [55], [59]. Defined as a culture oriented on customers, competitors, and internal collaboration, market orientation helps businesses understand customer needs to create value and improve performance and competitiveness [18], [37], [55]. However, treating it as a single construct can overlook how businesses process market information. To address this, there is a need to distinguish between responsive market orientation (RMO), which meets current needs, and proactive market orientation (PMO), which anticipates future ones [11]. This distinction enables a more precise understanding of how businesses balance reactive and forward-looking strategies.

However, the relationship between market orientation and business performance is inconsistent. Although [18] and [55] report a positive link, the findings remain debated. [48] found that although market orientation influenced various aspects of business performance, it did not affect market share, which is an indicator of business performance. Likewise, research on SMEs in New York found a positive relationship, while studies in Turkey showed no significant effect [48]. These inconsistencies suggest that market orientation alone cannot drive business performance, as it represents unconverted market knowledge that requires a mediating variable, specifically innovation capabilities, to transform insights into measurable outcomes [5].

Innovation capabilities allow SMEs to continuously convert market insights into customer-aligned adaptations, supporting value creation and loyalty, ultimately increasing business performance [33]. Aligned with Dynamic Capabilities Theory, they help businesses

adapt to changing conditions [51]. These capabilities include product innovation (PDI), focused on adapting customer-relevant offerings, and process innovation (PCI), aimed at improving operational efficiency and profitability [7]. While PDI enhances competitiveness and financial outcomes, PCI often shows no significant effect [1], [28]. However, both variables improved EP and FP in another study done on Indian MSMEs, highlighting the need for further research, as findings are still inconsistent [7].

Although innovation capabilities enhance SME performance, their effectiveness depends on external factors. One critical factor is market turbulence (MT), characterized by rapid changes in customer preferences, technology, and competition intensity [27]. In such environments, SMEs must innovate quickly to remain competitive [13], [17]. While innovation generally boosts performance in stable markets, it may be less effective when aligning with fast-changing demand [1], [7], [23]. However, [30] stated that innovation capabilities' effect on FP increased during and after the pandemic, highlighting its importance during crises. Thus, this study examines whether MT moderates the relationship between PDI and PCI and SMEs' FP.

Given that market turbulence influences innovation outcomes, this study focuses specifically on FP as the dependent variable. FP is crucial because it provides immediate, measurable indicators of an SME's viability and growth. Metrics like profitability and revenue growth respond directly to innovation and market changes, making them sensitive to turbulence [16], [18]. In contrast, EP reflects longer-term sustainability goals, making it less affected by short-term market shifts [60]. Moreover, existing studies primarily explore how MT interacts with innovation capabilities and FP, providing a strong foundation for this focus [17], [23].

These issues highlight the urgency to examine how product and process innovation capabilities mediate the effects of responsive and proactive market orientation on SMEs' financial and environmental performance. The study will also analyze how market turbulence moderates innovation capabilities and financial performance. The scope of this research will focus on Java Island for its sample, as it is the most densely populated island

and the primary center of economic activity in Indonesia. Additionally, it contributes to existing literature by clarifying how different forms of market orientation and innovation capabilities affect SME performance, and extends the context of Dynamic Capabilities Theory to emerging markets. The findings will help SME owners develop market-oriented, innovation-driven strategies for adaptive and sustainable business growth.

Theoretical Framework

The Dynamic Capabilities Theory (DCT) developed by Teece, Pisano, and Shuen is used in this research [51]. Dynamic capabilities are defined as a business's ability to adapt and reconfigure resources to address rapidly changing market conditions [51]. This theory proposed that businesses that have a competitive edge in their field usually exhibit three qualities: responsive to market changes, swift and adaptable innovation, and superior management capabilities in handling internal and external resources of the company [51]. Since then, DCT has been further developed beyond its initial definition by including three core capacities: sensing opportunities and threats, seizing opportunities through effective action, and transforming the firm's resource base to remain competitive [49], [50].

DCT serves as the basis framework explaining the dynamic interaction among the research variables in this study. Market orientation reflects the sensing capacity of DCT to detect current and emerging customer needs and respond accordingly. Innovation capabilities reflect DCT's seizing and transforming capacity, which will help SMEs act upon seen opportunities and increase value creation through transforming the business's available resources. These innovative efforts are expected to directly improve financial performance, which serves as the outcome of effective dynamic capabilities deployment. Meanwhile, market turbulence is introduced as a moderating variable that reflects the level of environmental volatility and uncertainty in the market. According to DCT, firms must adapt more frequently and rely more heavily on their dynamic capabilities to survive and thrive in turbulent market conditions [49]. Thus, the interaction between innovation capabilities and

market turbulence becomes essential in determining how innovation contributes to financial performance.

Dynamic capabilities are particularly important for developing and orchestrating the dynamic capabilities in resource-constrained SMEs. SMEs must be flexible and reconfigure strategies to face market pressures [5], [17]. Therefore, DCT offers a detailed theoretical perspective on the mediating effect of innovation capabilities in the association between market orientation and financial performance, as well as the moderation of market turbulence on these dynamics.

Hypotheses Development

Responsive market orientation (RMO) enhances innovation capabilities by enabling businesses to sense market needs and reconfigure resources, key aspects of Dynamic Capabilities Theory [50]. By staying closely attuned to customer demands, RMO supports both product (PDI) and process (PCI) innovation [45]. It also fosters relational, communicational, and cognitive competencies that help turn market insights into business-specific innovations, aligning with DCT's emphasis on sensing, seizing, and reconfiguring [39]. Based on this, the following hypotheses are proposed:

H1a: Responsive market orientation has a significant positive effect on product innovation capabilities.

H1b: Responsive market orientation has a significant positive effect on process innovation capabilities.

Proactive market orientation (PMO), unlike RMO, which addresses current needs, anticipates future customer demands by sensing trends, seizing early opportunities, and reconfiguring resources accordingly, which are core elements of DCT [42], [50]. PMO supports exploratory learning and strategic renewal, helping businesses develop innovative products and improve internal processes in response to change [42]. By identifying shifts in customer expectations and market dynamics, PMO enhances both product (PDI) and process

(PCI) innovation capabilities, boosting differentiation and efficiency [11], [59]. Based on this, the following hypotheses are proposed:

H2a: Proactive market orientation has a significant positive effect on product innovation capabilities.

H2b: Proactive market orientation has a significant positive effect on process innovation capabilities.

Product innovation capabilities (PDI) improve both EP and FP by enabling businesses to develop eco-friendly and competitive products. Through DCT, PDI supports strategic decision-making, adaptability, and change implementation through reconfiguration of resources in response to changing environmental and market demands [57]. Using sustainable materials and energy-efficient designs enhances EP, while eco-friendly product differentiation and green marketing boost FP through increased customer satisfaction and profitability [1], [3], [56]. Based on this, the following hypotheses are proposed:

H3a: Product innovation capabilities have a significant positive effect on environmental performance.

H3b: Product innovation capabilities have a significant positive effect on financial performance.

Process innovation capabilities (PCI) improve both EP and FP by optimizing operations and resources, which are key elements of resource reconfiguration in Dynamic Capabilities Theory [50]. PCI supports sustainable practices like cleaner production and energy-efficient processes, which reduce emissions, waste, and resource use, enhancing EP and regulatory compliance. It also boosts FP through increased productivity, efficiency, and cost savings. [1] and [58] highlight PCI's role in improving EP and FP, ensuring long-term business success and international competitiveness under regulatory pressure. Based on this, the following hypotheses are proposed:

H4a: Process innovation capabilities have a significant positive effect on environmental performance.

SENTRALISASI
UNIVERSITAS MUHAMMADIYAH SORONG
https://ejournal.um-sorongac.id/index.php/sentralisasi
p-ISSN 1979-7567
e-ISSN 2614-4328

H4b: Process innovation capabilities have a significant positive effect on financial performance.

Environmental performance (EP) positively impacts financial performance (FP) by reducing costs, improving efficiency, and enhancing reputation [6], [14]. In response to increasing social and regulatory pressure, businesses adopt waste and emission-reducing practices, reflecting the sensing, seizing, and reconfiguring capabilities of DCT [50]. Strong dynamic capabilities help businesses meet environmental demands, turning EP into a competitive advantage that boosts FP [6], [19]. Based on this, the following hypothesis is proposed:

H5: Environmental performance has a significant positive effect on financial performance.

Market turbulence (MT), marked by rapid changes in customer preferences, technology, and competition, can weaken the impact of innovation on FP [27]. While DCT emphasizes the need to sense and reconfigure resources to remain competitive, volatile environments may cause even strong innovations to misalign with shifting demands [50]. [29] highlights that MT increases customer resistance and reduces the effectiveness of traditional marketing. [20] and [36] confirm that MT weakens the performance benefits of PDI and PCI by rendering innovations obsolete amid rapid change. Based on this, the following hypotheses are proposed:

H6a: Market turbulence negatively moderates the relationship between product innovation capabilities and financial performance.

H6b: Market turbulence negatively moderates the relationship between process innovation capabilities and financial performance.

Through dynamic capabilities, RMO transforms market insights into product innovation and adaptive processes that enhance competitiveness [43], [55]. By focusing on current customer demands, RMO strengthens PDI by enabling the development of eco-friendly products [18], [45]. It also improves PCI by encouraging operational efficiency and

sustainability [59]. These innovations reduce waste and energy use (enhancing EP) while improving cost savings, customer satisfaction, and compliance (boosting FP). Based on this, the following hypotheses are proposed:

H7a: Responsive market orientation positively and significantly affects financial performance through product innovation capabilities and environmental performance.

H7b: Responsive market orientation positively and significantly affects financial performance through process innovation capabilities and environmental performance.

PMO leverages dynamic capabilities to transform market foresight into innovation that will sell rapidly among consumers [11], [55]. Through sensing, seizing, and reconfiguring resources, PMO strengthens PDI and PCI [50]. PDI supports EP by enabling sustainable product development and boosts FP through differentiation and responsiveness. PCI enhances EP by promoting eco-efficient operations and improves FP by reducing costs [55]. These insights suggest that innovation capabilities and EP mediate the effect of PMO on FP. Based on this, the following hypotheses are proposed:

H8a: Proactive market orientation positively and significantly affects financial performance through product innovation capabilities and environmental performance.

H8b: Proactive market orientation positively and significantly affects financial performance through process innovation capabilities and environmental performance.

Figure 1 represents the framework showcasing the relationship between the six variables. Responsive and proactive market orientation represents the independent variables. Product and process innovation capabilities are the mediating variables. Market turbulence is the moderating variable, while environmental and financial performance are the dependent variables.

SENTRALISASI
UNIVERSITAS MUHAMMADIYAH SORONG
https://ejournal.um-sorongac.id/index.php/sentralisasi
p-ISSN 1979-7567
e-ISSN 2614-4328

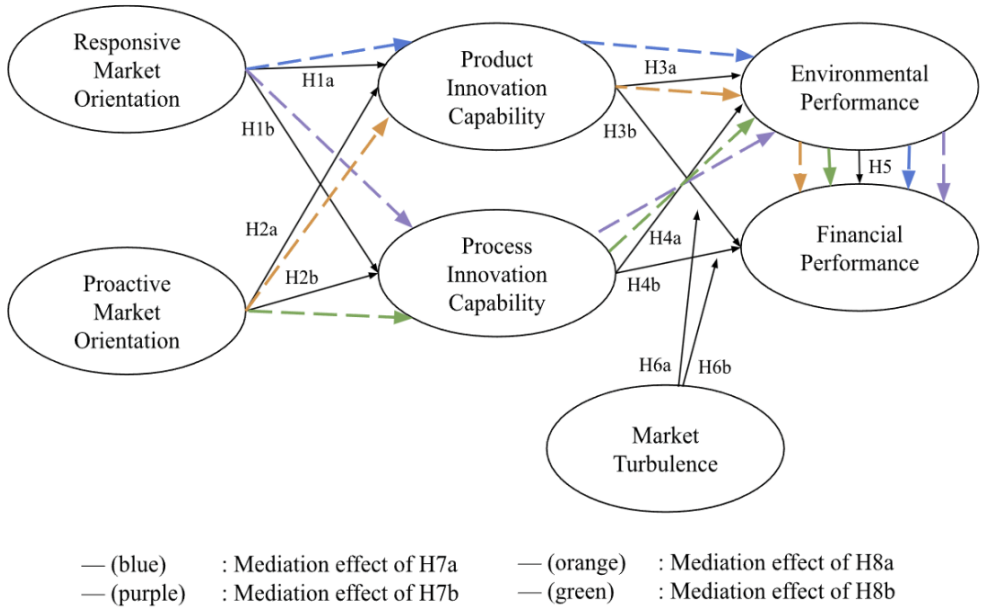


Figure 1. Research Model

Method

Sample & Data Collection

This study uses quantitative research with SMEs from varying industries located in Indonesia as the research subject. Data were collected using a Google Forms questionnaire that was distributed using a purposive sampling technique. The research period spans from December 2024 to June 2025. The target population consists of SME owners, directors, or other managerial-level individuals from businesses categorized as SMEs under Indonesian government standards: 5-99 employees; Rp 50 million to Rp 10 billion in net assets; and Rp 300 million to Rp 50 billion in annual revenue [41]. Since the exact population size of SMEs that fulfill this criterion is currently unknown, this study focuses its sample on SMEs operating in the Java island, which is the country's most economically active region. According to the G-Power calculation, the minimum sample size needed is 108 respondents. An effect size of 0.1 is chosen for its suitability to social science research [54]. A 5% probability of error and 90% of power minimize errors and ensure sensitivity towards data [54].

SENTRALISASI
UNIVERSITAS MUHAMMADIYAH SORONG
https://ejournal.um-sorongac.id/index.php/sentralisasi
p-ISSN 1979-7567
e-ISSN 2614-4328

Variables & Measurement

Respondents were asked to answer questions in the Google Forms using a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Each variable was measured using validated indicators that are modified from prior research, so it is better understood and contextualised. RMO and PMO were measured using an eight-item scale referring to [59] with several modifications. PDI and PCI use six and five items, respectively, from [1] with several modifications. FP and EP use three and nine items from [7] with several modifications. MT uses six items from [17] with several modifications. These items reflect each construct's relevance in influencing SME performance, aligning with DCT. To reduce potential response bias from self-reporting, the questionnaire employed clear, targeted item wording and contextual examples to support accurate self-assessment and minimize misunderstanding.

Data Analysis

The data was analyzed using descriptive statistics and Partial Least Squares Structural Equation Modeling (PLS-SEM). Descriptive statistics were used to analyze the demographic characteristics of Indonesian SMEs, while PLS-SEM was used to test the influence of each variable. Its ability to handle complex models with multiple constructs makes PLS-SEM suitable for small sample sizes and non-normally distributed data [10], [53].

PLS-SEM analysis consists of two stages: the measurement and structural models. The measurement model is assessed using outer loadings (> 0.70), average variance extracted (> 0.50) for convergent validity, the Fornell-Larcker criterion for discriminant validity, and reliability via Cronbach's alpha and composite reliability (both > 0.70) [24]. Multicollinearity is checked using VIF (< 5). The structural model evaluates the significance of relationships using p-values (< 0.05) and t-statistics (> 1.96) and assesses model fit through R^2, F^2, and Q^2 using bootstrapping [24].

SENTRALISASI
UNIVERSITAS MUHAMMADIYAH SORONG
https://ejournal.um-sorongac.id/index.php/sentralisasi
p-ISSN 1979-7567
e-ISSN 2614-4328

Results and Discussion

Sample Distribution

Table 1. Sample Distribution

Demographics	Frequency	Percentage (%)
Position		
CEO	5	4.35
Commissioner	2	1.74
Director	31	26.96
Manager	37	32.17
Owner	40	34.78
Domicile		
Banten	2	1.74
D.I. Yogyakarta	1	0.87
D.K.I. Jakarta	19	16.52
Jawa Barat	8	6.96
Jawa Tengah	1	0.87
Jawa Timur	84	73.04
Industry		
Agriculture	3	2.61
Construction	1	0.87
Creative	6	5.22
Export	2	1.74
Food & Beverages	13	11.30
Logistics	1	0.87
Manufacturing	16	13.91
Property	1	0.87
Retail & E-Commerce	29	25.22
Service	29	25.22
Wholesale Trade	14	12.17
Number of Employees		
5-19 People	69	60.00
20-99 People	46	40.00
Net Assets		
Rp 50.000.000 - Rp 500.000.000	65	56.52

SENTRALISASI
UNIVERSITAS MUHAMMADIYAH SORONG
https://ejournal.um-sorongac.id/index.php/sentralisasi
p-ISSN 1979-7567
e-ISSN 2614-4328

Demographics	Frequency	Percentage (%)
Position		
CEO	5	4.35
Commissioner	2	1.74
Director	31	26.96
Manager	37	32.17
Owner	40	34.78
Domicile		
Banten	2	1.74
D.I. Yogyakarta	1	0.87
D.K.I. Jakarta	19	16.52
Jawa Barat	8	6.96
Jawa Tengah	1	0.87
Jawa Timur	84	73.04
Industry		
Agriculture	3	2.61
Construction	1	0.87
Creative	6	5.22
Export	2	1.74
Food & Beverages	13	11.30
Logistics	1	0.87
Rp 500.000.000 - Rp 10.000.000.000	50	43.48
Annual Revenue		
Rp 300.000.000 - Rp 2.500.000.000	71	61.74
Rp 2.500.000.000 - Rp 50.000.000.000	44	38.26

Source: Processed Data (2025)

Out of the 121 questionnaire respondents, only 115 are valid since 6 respondents came from islands outside of Java. Table 1 indicates that all 115 respondents hold leadership roles in Java-based SMEs across different industries. All responses fulfilled the Indonesian government's criteria for small and medium enterprises (SMEs), with employees ranging from 5-99 people, net assets of Rp 50 million to 10 billion, and annual revenue of Rp 300 million to 50 billion [41]. As all respondents hold managerial positions, this indicates the accuracy of the data, as their position ensures their in-depth knowledge of business operations. Since the quantity of respondents from small enterprises is slightly more than medium-sized ones, the data may accurately reflect small business practices that are

SENTRALISASI
UNIVERSITAS MUHAMMADIYAH SORONG
https://ejournal.um-sorongac.id/index.php/sentralisasi
p-ISSN 1979-7567
e-ISSN 2614-4328

generally more reactive rather than proactive to changes, more resource-constrained, more agile due to less formal structure, and more decisions are centralized to owners. Furthermore, the large portion of respondents from the retail and e-commerce, service, manufacturing, and food and beverage industries is well-suited for this research, as these industries are notoriously prone to shifts in trends and fluctuating market conditions. Additionally, the number of samples has met the minimum criteria of 108 respondents, as calculated by G-Power, ensuring statistical adequacy for further analysis.

Table 2. Descriptive Statistics & Correlation

Variables	Mean	Standard Deviation	Correlation						
			RMO	PMO	PDI	PCI	MT	EP	FP
RMO	4.449	0.811	1.000	0.752	0.645	0.692	0.516	0.531	0.602
PMO	4.160	0.981	0.752	1.000	0.750	0.766	0.639	0.622	0.608
PDI	4.054	1.064	0.645	0.750	1.000	0.829	0.662	0.631	0.642
PCI	3.996	1.002	0.692	0.766	0.829	1.000	0.689	0.663	0.695
MT	3.911	1.026	0.516	0.639	0.662	0.689	1.000	0.590	0.555
EP	3.773	1.183	0.531	0.622	0.631	0.663	0.590	1.000	0.634
FP	3.913	0.989	0.602	0.608	0.642	0.695	0.555	0.634	1.000

Source: Processed Data (2025)

Table 2 shows the descriptive statistics and correlation of all latent variables used in this research. The mean represents the average value of the indicators across all respondents, while the standard deviation reflects the extent of variability in these responses. The results show that RMO, PMO, and PDI all have mean scores above 4.00, indicating that these factors are generally perceived as high among the sampled SMEs. In contrast, PCI, MT, EP, and FP have mean values above 3.00, suggesting a more moderate level of answers for these variables across the sample. Among all constructs, EP displays the highest variability (SD = 1.183), whereas RMO shows the lowest (SD = 0.912), indicating relatively consistent perceptions of responses. The correlation in the table above shows that all variables are positively related. The strongest correlation is between PDI and PCI, with a value of 0.829, while the weakest is between RMO and MT at 0.516.

SENTRALISASI
UNIVERSITAS MUHAMMADIYAH SORONG
https://ejournal.um-sorongac.id/index.php/sentralisasi
p-ISSN 1979-7567
e-ISSN 2614-4328

Table 3. Loadings, Convergent Validity, and Reliability

Variables	Item	Outer Loadings	AVE	Cronbach's Alpha	Composite Reliability	References
RMO2	Our business is always focused on customer needs.	0.724	0.621	0.848	0.891	Yin & Li (2023) with modification
RMO4	Our business strategy to stay ahead is based on a deep understanding of customer needs.	0.841				
RMO5	Our business measures customer satisfaction systematically.	0.851				
RMO6	Our business measures customer satisfaction frequently.	0.805				
RMO8	Our business believes that the primary goal of this business is to serve customers.	0.709				
PMO1	Our business helps customers understand how to deal with changes in the market.	0.855	0.712	0.932	0.945	Yin & Li (2023) with modification
PMO2	Our business is constantly exploring new customer needs that they may not yet be aware of.	0.853				
PMO3	Our business develops new products/services based on unseen customer needs.	0.793				
PMO4	Our business is looking for new ways to understand how customers use our products/services.	0.881				
PMO6	Our business looks for opportunities in areas where customers find it difficult to express what they need.	0.793				
PMO7	Our business works closely with key customers to understand their needs before the market does.	0.889				
PMO8	Our business predicts trends to find out customers' needs in the future.	0.836				
PDI1	Our business offers services with unique benefits that are superior to competitors.	0.707	0.701	0.913	0.933	Ahimbisibwe et al. (2024) with modification
PDI2	Our business actively develops existing products.	0.783				
PDI3	Our business is actively creating new	0.866				

SENTRALISASI
UNIVERSITAS MUHAMMADIYAH SORONG
https://ejournal.um-sorongac.id/index.php/sentralisasi
p-ISSN 1979-7567
e-ISSN 2614-4328

	products.					
PDI4	Our business is developing new products with differing functions.	0.885				
PDI5	Our business is trying to develop new products with different technical specifications.	0.901				
PDI6	Our business sees the creation of new products and services as important.	0.865				
PCI2	Our business actively adapts business processes to stay relevant.	0.732	0.692	0.850	0.899	Ahimbisibwe et al. (2024) with modification
PCI3	Our business uses technology effectively from the research stage to product development.	0.816				
PCI4	Our business is superior to competitors in managing daily operations.	0.877				
PCI5	Our business is superior to competitors in developing new processes/systems.	0.894				
MT1	In our type of business, customer service and product preferences change quite frequently over time.	0.786	0.646	0.817	0.879	Dhaheri et al. (2023) with modification
MT3	Sometimes our customers are very price sensitive, but other times, price is not as important a factor.	0.797				
MT4	Our business sees demand for products/services from customers who have never purchased them before.	0.790				
MT5	New customers tend to have different product/service-related needs than our existing customers.	0.840				
EP1	Our business takes initiatives to save energy through energy-saving measures/devices.	0.865	0.663	0.915	0.932	Babber & Mittal (2023) with modification
EP2	Our business implements measures to reduce the use of environmentally harmful materials.	0.784				
EP5	Our business implements measures to reduce waste.	0.849				
EP6	Our business seeks alternatives to reduce the use of natural resources.	0.777				
EP7	Our business employs water harvesting	0.768				

SENTRALISASI
UNIVERSITAS MUHAMMADIYAH SORONG
https://ejournal.um-sorongac.id/index.php/sentralisasi
p-ISSN 1979-7567
e-ISSN 2614-4328

	techniques to reduce water usage.					
EP8	Our business takes the initiative to reduce air pollution by reducing the use of natural fuels.	0.886				
EP9	Our business conducts regular audits to assess the effectiveness of measures in reducing environmental accidents (ISO 14000).	0.759				
FP1	Our business has achieved steady year-over-year sales growth.	0.951	0.911	0.951	0.968	Babber & Mittal (2023) with modification
FP2	Our business has achieved steady year-over-year profit growth.	0.954				
FP3	Our business has achieved steady year-over-year market share growth.	0.957				

Source: Processed Data (2025)

Table 4. Discriminant Validity (Fornell-Larcker Criterion)

Variables	EP	FP	MT	PCI	PDI	PMO	RMO
EP	0.814						
FP	0.634	0.954					
MT	0.590	0.555	0.804				
PCI	0.663	0.695	0.689	0.832			
PDI	0.631	0.642	0.662	0.829	0.837		
PMO	0.622	0.608	0.639	0.766	0.750	0.844	
RMO	0.531	0.602	0.516	0.692	0.645	0.752	0.788

Source: Processed Data (2025)

Table 5. Inner Model Multicollinearity

Variables	RMO	PMO	PDI	PCI	MT	EP	FP
RMO			2.299	2.299			
PMO			2.299	2.299			
PDI						3.196	4.120
PCI						3.196	4.867
MT							2.141
EP							1.959
FP							

Source: Processed Data (2025)

Tables 3 and 4 showcase validity and reliability test results, which show that the indicators accurately measured their latent constructs. Convergent validity was supported as

SENTRALISASI
UNIVERSITAS MUHAMMADIYAH SORONG
https://ejournal.um-sorongac.id/index.php/sentralisasi
p-ISSN 1979-7567
e-ISSN 2614-4328

all indicators had outer loadings above 0.70 after deleting RMO1, RMO3, RMO7, PMO5, PCI1, MT2, MT6, EP3, and EP4; average variance extracted (AVE) values exceeded 0.50 for all constructs [24]. Discriminant validity was established using the Fornell-Larcker criterion, which requires that the square root of each construct's AVE exceeds its correlations with other constructs. Reliability was confirmed via Cronbach's alpha and composite reliability values that were more than 0.70 [24]. Lastly, all VIF values are below 5, indicating no multicollinearity issues [24].

Table 6. Direct & Indirect Effects

Hypothesis	Path	Original Sample	t-statistics	p-values	Statement
H1a	RMO → PDI	0.186	1.662	0.097	Rejected
H1b	RMO → PCI	0.267	2.420	0.016	Accepted
H2a	PMO → PDI	0.610	5.776	0.000	Accepted
H2b	PMO → PCI	0.565	5.410	0.000	Accepted
H3a	PDI → EP	0.259	1.970	0.049	Accepted
H3b	PDI → FP	0.025	0.171	0.864	Rejected
H4a	PCI → EP	0.448	3.303	0.001	Accepted
H4b	PCI → FP	0.498	3.336	0.001	Accepted
H5	EP → FP	0.267	3.059	0.002	Accepted
H6a	Moderating Effect of MT on PDI → FP	-0.181	1.459	0.145	Rejected
H6b	Moderating Effect of MT on PCI → FP	0.195	1.437	0.151	Rejected
H7a	RMO → PDI → EP → FP	0.013	0.911	0.363	Rejected
H7b	RMO → PCI → EP → FP	0.032	1.774	0.077	Rejected
H8a	PMO → PDI → EP → FP	0.042	1.498	0.135	Rejected
H8b	PMO → PCI → EP → FP	0.068	2.088	0.037	Accepted

Source: Processed Data (2025)

The p-value determines whether the relationship between variables is statistically significant, with values below 0.05 indicating a significant relationship [24]. According to

SENTRALISASI
UNIVERSITAS MUHAMMADIYAH SORONG
https://ejournal.um-sorongac.id/index.php/sentralisasi
p-ISSN 1979-7567
e-ISSN 2614-4328

Table 6, H1b, H2a, H2b, H3a, H4a, H4b, H5, and H8b are accepted, as their p-values are below 0.05. Hypotheses H1a, H3b, H6a, H6b, H7a, H7b, and H8a have a p-value more than 0.05, which makes the relationships insignificant. All the hypotheses have positive relationships, as seen by the path coefficient of the original sample, except for the negative moderation effect of MT on PDI and FP (H6a).

Table 7. Goodness of Fit

Variables	R^2	R^2 Adjusted	f^2				Q^2
			PDI	PCI	EP	FP	
RMO			0.036	0.081			
PMO			0.383	0.363			
PDI	0.577	0.570			0.039	0.000	0.388
PCI	0.618	0.611			0.116	0.116	0.415
EP	0.461	0.451				0.083	0.297
FP	0.560	0.535					0.480
MT						0.001	

Source: Processed Data (2025)

Table 7 presents the goodness-of-fit results for the research model. The results indicate moderate explanatory power for PDI, PCI, and FP ($0.50 \leq x \leq 0.75$) and weak explanatory power for EP ($0.25 \leq x \leq 0.50$). All Q^2 values exceed 0.25 and are less than 0.50, indicating medium predictive relevance, while surpassing the minimum threshold of 0. Independent variables are thus valid predictors of the outcomes. Effect size analysis shows RMO has a small effect on PDI and PCI, while PMO has a large effect on both. PDI and PCI have small effects on EP. PCI and EP have small effects on FP, while PDI and MT have no effect.

Discussion

RMO significantly influences PCI but not PDI, supporting H1b and rejecting H1a. This reflects how resource-constrained SME owners favor low-risk process-oriented improvements, such as improving service speed or operational efficiency, that align with expressed customer needs and can be applied incrementally [11]. These results partially

support DCT: RMO reflects the sensing function of DCT by sensing existing market signals but lacks the seizing and reconfiguring capacities needed for transformative change [50]. This is consistent with most respondents coming from the service, retail, and e-commerce sectors, where innovation centers on speed, reliability, and customer experience rather than novel products. Limited research & development (R&D), funding, and weak digital infrastructure further restrict PDI [40]. As [5] notes, customer orientation alone is insufficient for PDI without enabling capabilities like absorptive learning or technological readiness. Cultural context also plays a role, as Indonesia's collectivist, harmony-seeking work culture discourages challenging the status quo or norms, reinforcing RMO's tendency for safer, process-oriented innovation targeting efficiency rather than novelty [52].

In contrast, PMO significantly enhances both PDI and PCI (supporting H2a and H2b), with large effect sizes suggesting that forward-looking SMEs are better at anticipating future and unspoken customer needs, and are more willing to engage in strategic experimentation to drive novelty [1], [61]. Furthermore, a study by [62] showcased that PMO strengthens intellectual capital use, enabling SMEs to enhance operations and long-term sustainability through product and service differentiation. Thus, PMO supports external market sensing and internal knowledge-building, strengthening the application of DCT's sensing, seizing, and transforming capacity in helping Indonesian SMEs overcome structural challenges [50].

The significant influence of PMO on PDI aligns with the fact that many of the respondents operate in highly competitive and customer-driven sectors like retail and e-commerce, as seen in Table 1. These industries require constant adaptation to consumer trends, digital platforms, and changing preferences. Even though most surveyed SMEs are small in size with 5 to 19 employees and limited funding, they are often under pressure to differentiate themselves through product offerings to increase their competitive advantage compared to competitors, prompting them to invest in product innovation despite resource constraints. PMO allows these businesses to recognize upcoming demands and develop new products to stay relevant.

Likewise, the strong relationship between PMO and PCI can be understood in light of the large number of service-sector respondents. In services, innovation frequently occurs through improvements in internal processes, customer experience, or delivery systems rather than through physical products. A proactive mindset helps firms in this sector improve operational workflows, adopt new digital tools, and adjust service models to anticipate customer expectations. Therefore, the effect of PMO on PCI reflects how these SMEs leverage forward-looking strategies to refine their processes and enhance efficiency in response to dynamic market conditions.

PDI significantly improves EP (supporting H3a) but not FP (rejecting H3b). This validates the role of sustainable product design in reducing environmental impact, therefore improving a business's environmental performance [3]. However, SMEs, as seen in Table 1 with their net assets and annual revenue, often lack the branding, marketing, and scaling capabilities to commercialize their innovations for financial gains due to structural limitations, such as insufficient funding, low technological readiness, and constrained access to marketing or distribution networks [35]. This result partially supports DCT's application in the Indonesian SMEs context, which suggests that sensing opportunity alone is insufficient without seizing and transforming it to generate value or financial success [50]. In contrast, PCI positively affects both EP and FP (supporting H4a and H4b), strengthening DCT application in the Indonesian SMEs context. Improvements in energy efficiency, waste reduction, and streamlined workflows deliver measurable benefits in costs, environmental regulations compliance, and service quality. The results also reflect the sample being largely from the service industry, as process innovation is more feasible and directly impacts customer satisfaction.

A strong positive relationship and R^2 value between EP and FP (supporting H5) support the idea that environmental improvements enhance competitiveness through increased profitability and market value after a certain threshold is reached [38]. For resource-constrained SMEs, sustainability efforts reduce operating costs, enhance brand reputation, and improve compliance with environmental regulations, which contributes to financial gains [6], [19]. The result also strengthens the application of DCT in the Indonesian

SMEs context, as it aligns with the core of DCT, which emphasizes adaptability in response to market and environmental shifts [50]. For SMEs in developing economies, responsiveness to environmental concerns not only meets regulatory demands but also represents a strategic capability for sustaining financial performance under increasing global and local sustainability pressures.

Contrary to expectations, MT does not moderate the effects of PDI or PCI on FP, rejecting H6a and H6b. Although market turbulence is often found to weaken innovation outcomes, contextual factors may affect this result [20]. During the data collection period, global instability, like prolonged conflicts among developed countries, was high. Still, many SMEs in the sample may have built resilience, as the majority of respondents operate in the service, retail, and e-commerce sectors—industries that have been at the forefront of digital transformation in recent years. As noted by [4] and [21], SMEs have increasingly turned to agile decision-making, digital integration, and lean operational strategies post-pandemic to adapt to shifting market conditions and buffer the effects of external shocks. This could explain the lack of significant moderation, which indicates a potential limitation of DCT application in the Indonesian SMEs context that calls for further research to assess how different types of MT affect innovation-performance dynamics.

Only the mediation pathway of H8b is significant, indicating that SMEs with strong PMO investing in clean, efficient processes can enhance EP and FP despite limited resources, strengthening DCT's application in the Indonesian SMEs context [9], [22]. The lack of support for H7a, H7b, and H8a implies that innovation driven solely by reactive market responses may fall short without integration into broader strategic goals and supportive operational capabilities [17]. These results may also reflect Indonesia's hierarchical structure, which limits upward feedback from frontline employees, especially in retail and service sectors, who are more attuned to customer needs, reducing insight flow that can support proactive PDI [52]. In contrast, PCI aligns more easily with top-down directives and internal efficiency goals, making it more compatible with such structures. As such, the overall results indicate that DCT is more relevant in its application for process-

oriented innovation driven by proactive market orientation than in reactive or product-focused innovation.

From a managerial perspective, SMEs should prioritize RMO and PCI to achieve short-term performance gains and pursue PMO and PDI for long-term sustainability, as these businesses have greater chances of becoming new market leaders through novel products. Businesses with stronger PMOs are also better positioned to handle uncertainty while generating measurable returns. Although MT did not significantly alter performance outcomes here, maintaining agility and vigilance remains critical in an increasingly dynamic market environment to ensure the business stays competitive [12], [34].

Conclusion

This research analyzes the effects of different types of market orientation and innovation capabilities on environmental and financial performance in Indonesian SMEs across the Java island, using the Dynamic Capabilities Theory as a theoretical foundation [50]. The findings reveal that proactive market orientation (PMO) significantly influences both product innovation capabilities (PDI) and process innovation capabilities (PCI), with PCI emerging as the key driver of both environmental performance (EP) and financial performance (FP). In contrast, RMO has a significant impact only on PCI, and PDI does not show a significant relationship with FP. These results affirm that proactive strategic orientation and internal capability development, particularly process-focused innovations, play a critical role in delivering sustainable and financial outcomes, thereby supporting the core capacities of Dynamic Capabilities Theory in the Indonesian SME context.

From a practical standpoint, the findings suggest that SME managers, directors, and owners should prioritize proactive market orientation and actively invest in developing process innovation capabilities to enhance operational efficiency, environmental responsiveness, and long-term financial resilience. Strengthening these dynamic capabilities enables businesses to better sense market shifts, reconfigure internal processes, and capitalize on emerging sustainability-driven opportunities in hopes of gaining a lasting competitive advantage.

However, several limitations of this study must be noted. First, the use of Likert scale questionnaires introduces the potential for subjective bias that compromises accuracy, as responses often reflect personal perceptions rather than objective evaluations. In particular, this study uses primary data through the Likert scale for its financial performance variable, as most businesses are unwilling to declare their financial performance. Second, the cross-sectional research design does not account for time-lag effects, particularly in measuring the delayed financial impact of product innovation. Future research should follow SMEs for a longer period to examine the progress and explore other factors that might affect the development of innovation outcomes over time. Third, although the study included SMEs from various industries, most respondents came from East Java. This limits the generalizability of the findings to the overall SME population on the Java island. Expanding future research to include a fairer ratio of SMEs from across Java would provide more objective insights into how SMEs develop dynamic capabilities under different market conditions.

References

[1] Ahimbisibwe, G. M., Ecel, A., Nuwagaba, D., Nakigudde, R., Mpiriirwe, R. F., & Kiplangat, L. (2024). Innovation capabilities and international competitiveness of agro-processing firms in Uganda. *Competitiveness Review an International Business Journal Incorporating Journal of Global Competitiveness*. https://doi.org/10.1108/cr-04-2024-0079.

[2] Alam, A., Du, A. M., Rahman, M., Yazdifar, H., & Abbasi, K. (2022). SMEs respond to climate change: Evidence from developing countries. *Technological Forecasting and Social Change*, *185*, 122087. https://doi.org/10.1016/j.techfore.2022.122087.

[3] Appiah, L. O., & Essuman, D. (2024). How do firms develop and financially benefit from green product innovation in a developing country? Roles of innovation orientation and green marketing innovation. *Business Strategy and the Environment*, *33*(7), 7241–7252. https://doi.org/10.1002/bse.3864.

[4] Arici, T., & Gok, M. S. (2023). Examining Environmental Turbulence Intensity: A strategic Agility and Innovativeness approach on firm performance in environmental turbulence situations. *Sustainability*, *15*(6), 5364. https://doi.org/10.3390/su15065364.

[5] Aydin, H. (2020). Market orientation and product innovation: the mediating role of technological capability. *European Journal of Innovation Management*, *24*(4), 1233–1267. https://doi.org/10.1108/ejim-10-2019-0274.

[6] Aydoğmuş, M., Gülay, G., & Ergun, K. (2022). Impact of ESG performance on firm value and profitability. *Borsa Istanbul Review*, *22*, S119–S127. https://doi.org/10.1016/j.bir.2022.11.006.

[7] Babber, G., & Mittal, A. (2023). Achieving sustainability through the integration of lean, agile, and innovative systems: implications for Indian micro small medium enterprises (MSMEs). *Journal of Science and Technology Policy Management*. https://doi.org/10.1108/jstpm-05-2023-0087.

[8] Badan Pusat Statistik. (2024, September 18). *Jumlah Perusahaan Industri Skala Mikro dan Kecil Menurut Provinsi (Unit), 2023*. https://www.bps.go.id/id/statistics-table/2/NDQwIzI=/jumlah-perusahaan-industri-skala-mikro-dan-kecil-menurut-provinsi.html.

[9] Batrancea, L. M., Nichita, A., & Cocis, A. (2022). Financial Performance and Sustainable Corporate Reputation: Empirical Evidence from the Airline Business. *Sustainability*, *14*(20), 13567. https://doi.org/10.3390/su142013567.

[10] Becker, J., Cheah, J., Gholamzade, R., Ringle, C. M., & Sarstedt, M. (2022). PLS-SEM's most wanted guidance. *International Journal of Contemporary Hospitality Management*, *35*(1), 321–346. https://doi.org/10.1108/ijchm-04-2022-0474.

[11] Bodlaj, M., & Čater, B. (2021). Responsive and proactive market orientation in relation to SMEs' export venture performance: The mediating role of marketing capabilities. *Journal of Business Research*, *138*, 256–265. https://doi.org/10.1016/j.jbusres.2021.09.034.

[12] Caballero-Morales, S. (2021). Innovation as recovery strategy for SMEs in emerging economies during the COVID-19 pandemic. *Research in International Business and Finance*, *57*, 101396. https://doi.org/10.1016/j.ribaf.2021.101396.

[13] Cataltepe, V., Kamasak, R., Bulutlar, F., & Alkan, D. P. (2022). Dynamic and marketing capabilities as determinants of firm performance: evidence from automotive industry. *Journal of Asia Business Studies*, *17*(3), 617–638. https://doi.org/10.1108/jabs-11-2021-0475.

[14] Chairani, C., & Siregar, S. V. (2021). The effect of enterprise risk management on financial performance and firm value: the role of environmental, social and governance performance. *Meditari Accountancy Research*, *29*(3), 647–670. https://doi.org/10.1108/medar-09-2019-0549.

[15] Chen, X., He, J., & Qiao, L. (2022). Does environmental regulation affect the export competitiveness of Chinese firms? *Journal of Environmental Management*, *317*, 115199. https://doi.org/10.1016/j.jenvman.2022.115199.

[16] Dameshifa, K., Azazi, A., Listiana, E., Malini, H., & Heriyadi, H. (2023). The Influence of Entrepreneurial and Market Orientation on Business Performance through Mediation of Innovation Capability: Implementation of SMEs in Indonesia. *East African Scholars Journal of Economics Business and Management*, *6*(1), 1–10. https://doi.org/10.36349/easjebm.2023.v06i01.001.

[17] Dhaheri, M. A., Ahmad, S. Z., Bakar, A. R. A., & Papastathopoulos, A. (2023). Dynamic capabilities and SMEs competitiveness: the moderating effect of market turbulence. *Journal of Asia Business Studies*, *18*(2), 277–298. https://doi.org/10.1108/jabs-03-2023-0106.

[18] Fikri, A. R., Ratnasari, R. T., Ahmi, A., & Kirana, K. C. (2022). Market orientation and business performance: the mediating role of total quality management and service innovation among Moslem fashion macro, small and medium enterprises in Indonesia. *Journal of Islamic Accounting and Business Research*, *13*(8), 1234–1252. https://doi.org/10.1108/jiabr-12-2021-0321.

[19] Forés, B., Puig-Denia, A., Fernández-Yáñez, J. M., & Boronat-Navarro, M. (2023). Dynamic capabilities and environmental performance: all in the family. *Management Decision*, *61*(13), 248–271. https://doi.org/10.1108/md-10-2022-1344.

[20] Furyanah, A., Suroso, A., & Setyanto, R. P. (2024). Dimensions of entrepreneurial orientation and Marketing Performance: The Moderating Effect of market turbulence. *Revista De Gestão Social E Ambiental*, *18*(5), e03735. https://doi.org/10.24857/rgsa.v18n5-063.

[21] Gonçalves, M. P. V., Ferreira, F. a. F., Dabić, M., & Ferreira, J. J. M. (2023). "Navigating through the digital swamp": assessing SME propensity for online marketplaces. *Review of Managerial Science*, *18*(9), 2583–2612. https://doi.org/10.1007/s11846-023-00704-2.

[22] Gruchmann, T., Timmer, V., Gold, S., & Geßner, C. (2021). Dynamic capabilities for sustainable change in the food processing industry: A multilevel perspective. *Journal of Cleaner Production*, *311*, 127534. https://doi.org/10.1016/j.jclepro.2021.127534.

[23] Gyedu, S., Tang, H., Ntarmah, A. H., & Manu, E. K. (2021). The moderating effect of environmental turbulence on the relationship between innovation capability and business performance. *International Journal of Innovation Science*, *13*(4), 456–476. https://doi.org/10.1108/ijis-10-2020-0189.

[24] Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2018). When to use and how to report the results of PLS-SEM. *European Business Review*, *31*(1), 2–24. https://doi.org/10.1108/ebr-11-2018-0203.

[25] Huang, J., & Wu, Z. (2022). Impact of Environmental Regulations on Export Trade—Empirical Analysis based on Zhejiang Province. *International Journal of Environmental Research and Public Health*, *19*(19), 12569. https://doi.org/10.3390/ijerph191912569.

[26] International Finance Corporation. (2024). *Small Business, Big Impact: Empowering Women SMEs for success*. https://www.ifc.org/en/stories/2024/small-business-big-impact?utm_source=chatgpt.com.

[27] Jaworski, B. J., & Kohli, A. K. (1993). Market orientation: Antecedents and consequences. *Journal of Marketing*, *57*(3), 53. https://doi.org/10.2307/1251854.

[28] Jeong, S. W., & Chung, J. (2022). Enhancing competitive advantage and financial performance of consumer-goods SMEs in export markets: how do social capital and marketing innovation matter? *Asia Pacific Journal of Marketing and Logistics*, *35*(1), 74–89. https://doi.org/10.1108/apjml-05-2021-0301.

[29] Joshi, Y., Bodhi, R., Chatterjee, S., & Mariani, M. (2025). The impact of growth hacking on firm performance under environmental turbulence: A moderated-mediation analysis. *Journal of Business Research*, *191*, 115271. https://doi.org/10.1016/j.jbusres.2025.115271.

[30] Kaukab, M. E. (2024). Measuring innovation capability and its effects on financial performance using companies' annual reports. *Problems and Perspectives in Management*, *22*(3), 134–145. https://doi.org/10.21511/ppm.22(3).2024.11.

[31] Kemenko Perekonomian RI. (2022). *Coordinating Minister Airlangga: Government Continues to Encourage Strengthening Economic Foundations by Establishing Digital Transformation of MSMEs as One of the Priorities*. Kementerian Koordinator Bidang Perekonomian Republik Indonesia. https://ekon.go.id/publikasi/detail/4065/coordinating-minister-airlangga-government-continues-to-encourage-strengthening-economic-foundations-by-establishing-digital-transformation-of-msmes-as-one-of-the-priorities.

[32] Kohli, A. K., & Jaworski, B. J. (1990). Market orientation: the construct, research propositions, and managerial implications. *Journal of Marketing*, *54*(2), 1. https://doi.org/10.2307/1251866.

[33] Lassen, A. H., & Larsen, M. S. S. (2024). Manufacturing innovation for Industry 4.0: an innovation capability perspective. *Journal of Manufacturing Technology Management*, *36*(9), 19–44. https://doi.org/10.1108/jmtm-09-2023-0414.

[34] Li, X., Voorneveld, M., & De Koster, R. (2021). Business transformation in an age of turbulence – Lessons learned from COVID-19. *Technological Forecasting and Social Change*, *176*, 121452. https://doi.org/10.1016/j.techfore.2021.121452.

[35] Mai, A. N., Van Vu, H., Bui, B. X., & Tran, T. Q. (2019). The lasting effects of innovation on firm profitability: panel evidence from a transitional economy. *Economic Research-Ekonomska Istraživanja*, *32*(1), 3417–3436. https://doi.org/10.1080/1331677x.2019.1660199.

[36] Miranda, F., Ramadania, Pebrianti, W., Rosnani, T., & Syahbandi. (2023). Eco-innovation and sustainable business performance: The moderating effect of market turbulence on tupperware in Indonesia. *Enrichment: Journal of Management*, *13*(5). https://doi.org/10.35335/enrichment.v13i5.1739.

[37] Narver, J. C., & Slater, S. F. (1990). The effect of a market orientation on business profitability. *Journal of Marketing*, *54*(4), 20–35. https://doi.org/10.1177/002224299005400403.

[38] Nguyen, L. (2022). The relationship between environmental performance and financial performance: evidence from an emerging East Asian economy. *International Journal of Disclosure and Governance*, *20*(1), 1–14. https://doi.org/10.1057/s41310-022-00152-6.

[39] Oberoi, P., & Naoui-Outini, F. (2024). Market orientation dynamic capability – a catalyst for purchasers' core competencies to achieve innovative performance during supplier collaboration. *Journal of Asia Business Studies*, *18*(2), 430–455. https://doi.org/10.1108/jabs-04-2023-0157.

[40] OECD. (2023). OECD SME and Entrepreneurship Outlook 2023. In *OECD SME and entrepreneurship outlook*. https://doi.org/10.1787/342b8564-en.

[41] OECD & ASEAN. (2021). Strengthening Evidence-Based MSME Policymaking in ASEAN. In *ASEAN*. https://asean.org/wp-content/uploads/2021/09/Policy-Insight_Strengthening-evidence-based-MSME-policymaking-in-ASEAN.pdf.

[42] Pfajfar, G., Mitręga, M., & Shoham, A. (2023). Systematic review of international marketing capabilities in dynamic capabilities view – calibrating research on

international dynamic marketing capabilities. *International Marketing Review*, *41*(1), 237–272. https://doi.org/10.1108/imr-12-2022-0276.

[43] Pundziene, A., Nikou, S., & Bouwman, H. (2021). The nexus between dynamic capabilities and competitive firm performance: the mediating role of open innovation. *European Journal of Innovation Management*, *25*(6), 152–177. https://doi.org/10.1108/ejim-09-2020-0356.

[44] Qalati, S. A., Barbosa, B., & Iqbal, S. (2023). The effect of firms' environmentally sustainable practices on economic performance. *Economic Research-Ekonomska Istraživanja*, *36*(3). https://doi.org/10.1080/1331677x.2023.2199822.

[45] Shahzad, M. K., Ahmed, S., Anwar, F., & Hussain, T. (2024). Achieving competitiveness through innovation capability: developing what public sector customers really need. *Measuring Business Excellence*, *28*(3/4), 415–425. https://doi.org/10.1108/mbe-04-2024-0052.

[46] Sharabati, A. A., Ali, A. a. A., Allahham, M. I., Hussein, A. A., Alheet, A. F., & Mohammad, A. S. (2024). The Impact of Digital Marketing on the performance of SMEs: An analytical study in light of Modern digital Transformations. *Sustainability*, *16*(19), 8667. https://doi.org/10.3390/su16198667.

[47] Sudjatmoko, A., Ichsan, M., Astriani, M., Mariani, & Clairine, A. (2023). The Impact of COVID-19 Pandemic on the Performance of Indonesian MSME with Innovation as Mediation. *Cogent Business & Management*, *10*(1). https://doi.org/10.1080/23311975.2023.2179962.

[48] Swasta, S., Wijayanto, A., & Listyorini, S. (2023). The Effect of Entrepreneurial Orientation and Market Orientation on SME Business Performance Through Product Innovation As A Mediating Variable In Jepara's Furniture Craftsmen. *Jurnal Ekonomi*, *12*(3), 1527–1533. https://ejournal.seaninstitute.or.id/index.php/Ekonomi/article/view/2074.

[49] 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.

[50] Teece, D. J. (2014). The Foundations of Enterprise Performance: Dynamic and Ordinary capabilities in an (Economic) Theory of Firms. *Academy of Management Perspectives*, *28*(4), 328–352. https://doi.org/10.5465/amp.2013.0116.

[51] 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.

[52] The Culture Factor Group. (2025). Country Comparison Tool. https://www.theculturefactor.com/country-comparison-tool?countries=indonesia

[53] Tran, Q., & Huang, D. (2022). Using PLS-SEM to analyze challenges hindering success of green building projects in Vietnam. *Journal of Economics and Development*, *24*(1), 47–64. https://doi.org/10.1108/jed-04-2020-0033.

[54] Verma, J. P., & Verma, P. (2020). Determining sample size and power in research studies. In *Springer eBooks*. https://doi.org/10.1007/978-981-15-5204-5.

[55] Wang, Y., Xue, X., & Guo, H. (2022). The Sustainability of Market Orientation from a Dynamic Perspective: The Mediation of Dynamic Capability and the Moderation of Error Management Climate. *Sustainability*, *14*(7), 3763. https://doi.org/10.3390/su14073763.

[56] Wang, Y. Z., & Ahmad, S. (2024). Green process innovation, green product innovation, leverage, and corporate financial performance; evidence from system GMM. *Heliyon*, *10*(4), e25819. https://doi.org/10.1016/j.heliyon.2024.e25819.

[57] Widyani, A. A. D., & Suardhika, I. N. (2024). The Role of Dynamic Capability and Product Innovation to Increase Competitive Advantage. *Jurnal Ekonomi Dan Bisnis Jagaditha*, *11*(2). https://doi.org/10.22225/jj.11.2.2024.172-183.

[58] Xie, X., Han, Y., & Hoang, T. T. (2022). Can green process innovation improve both financial and environmental performance? The roles of TMT heterogeneity and

ownership. *Technological Forecasting and Social Change*, *184*. https://doi.org/10.1016/j.techfore.2022.122018.

[59] Yin, M., & Li, J. (2023). How market orientation affects open innovation? Exploring the role of information and communication technology capability. *European Journal of Innovation Management*, *27*(6), 1885–1911. https://doi.org/10.1108/ejim-08-2022-0401.

[60] Yu, W., & Jin, X. (2021). Long-term and short-term effects of green strategy on corporate performance: evidence from Chinese listed companies. *Environmental Science and Pollution Research*, *29*(16), 24112–24130. https://doi.org/10.1007/s11356-021-17548-6.

[61] Yuki, S., & Kubo, T. (2023). The incompatibility of proactive market orientation and postponement strategy in product differentiation. *Journal of Business and Industrial Marketing*, *38*(13), 92–104. https://doi.org/10.1108/jbim-07-2022-0348.

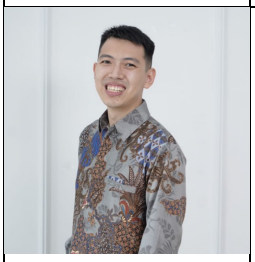
[62] Yusup, A. K. (2024). How does intellectual capital affect firm performance across different levels? A quantile regression approach. *Management Analysis Journal*, 13(4), 387–395. https://doi.org/10.15294/maj.v13i4.15507.

[63] Zhao, C., Zhu, J., Xu, Z., Wang, Y., Liu, B., Yuan, L., Wang, X., Xiong, J., & Zhao, Y. (2022). The Effect of Air Pollution Control Auditing on Reducing Carbon Emissions: Evidence from China. *International Journal of Environmental Research and Public Health*, *19*(24), 17019. https://doi.org/10.3390/ijerph192417019.

SENTRALISASI
UNIVERSITAS MUHAMMADIYAH SORONG
https://ejournal.um-sorongac.id/index.php/sentralisasi
p-ISSN 1979-7567
e-ISSN 2614-4328

BIOGRAPHIES OF AUTHORS

Teresa Samantha Satyanegara is currently pursuing her Bachelor's degree in International Business Management - International Class at the School of Business and Management, Universitas Ciputra Surabaya. She can be contacted at email: tsamantha@student.ciputra.ac.id



Adi Kurniawan Yusup obtained his Doctoral degree in Finance and Investment from Universitas Katolik Widya Mandala Surabaya. He is currently a lecturer at International Business Management - International Class, Universitas Ciputra Surabaya. He can be contacted at email: adi.kurniawan@ciputra.ac.id