International Journal of Management Science and Information Technology
IJMSIT

E-ISSN: 2774-5694 P-ISSN: 2776-7388 OPEN ACCESS

Volume 6 (2), July-December 2026, 3280-3290
DOI: https://doi.org/10.35870/ijmsit.v6i2.8748

Business Performance of Small-Scale Freshwater Ornamental Fish Farming: The Roles of Marketing Capability, Entrepreneurial Orientation, and Innovation Capability

Meidinda Rachmawati [1*], Sudarmiatin [2], Wening Patmi Rahayu [3], Naswan Suharsono [4]
[1*,2,3,4] Doctoral Program in Management Science, Faculty of Economics and Bussiness, Universitas Negeri Malang, Malang City, East Java Province, Indonesia

Email: meidindaard@gmail.com [1*], sudarmiatin.fe@um.ac.id [2], wening.patmi.fe@um.ac.id [3], naswan.suharsono.fe@um.ac.id [4]

Article history:
Received September 17, 2026
Revised November 11, 2026
Accepted November 18, 2026

Abstract

The freshwater ornamental fish farming sector in developing countries, particularly in Indonesia, faces increasing competitive pressures that demand strategic capabilities to maintain business performance. This study examines the influence of marketing capability and entrepreneurial orientation on business performance, with innovation capability as a mediating mechanism, among small-scale freshwater ornamental fish farming micro, small, and medium enterprises (MSMEs) in Kediri Regency, East Java, Indonesia. Using a quantitative research design, data were collected through a structured questionnaire from 215 ornamental fish farming owners and operators using purposive sampling. Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) through SmartPLS 4.0. The results indicate that marketing capability and entrepreneurial orientation significantly and positively influence business performance. Furthermore, both marketing capability and entrepreneurial orientation significantly enhance innovation capability, which in turn positively influences business performance. Mediation analysis confirms that innovation capability partially mediates the relationship between marketing capability and business performance, as well as between entrepreneurial orientation and business performance. These findings contribute to the resource-based view and dynamic capabilities theory in the context of aquaculture MSMEs specifically. This study offers theoretical contributions and practical implications for policymakers and practitioners seeking to improve the competitiveness and sustainability of small-scale ornamental fish farming businesses.

Keywords:
Marketing capability; Entrepreneurial orientation; Innovation capability; Business performance; Ornamental fish farming; MSMEs; PLS-SEM.

1. INTRODUCTION

The global ornamental fish industry has developed into a competitive sector within the aquaculture trade, with Indonesia possessing considerable potential due to its biodiversity and freshwater ornamental fish production. However, the development of this industry continues to face challenges related to product quality, production continuity, marketing, regulatory requirements, and distribution systems. The dominance of small-scale producers and micro-enterprises indicates that competitiveness depends not only on production capacity but also on the ability to identify market opportunities and respond to changing market conditions (Tarihoran et al., 2023a). Furthermore, research involving Indonesian ornamental fish producers demonstrates that market-based dynamic capabilities contribute to business performance and export orientation (Tarihoran et al., 2023b).

Despite its potential, small-scale freshwater ornamental fish farming enterprises face several operational and strategic challenges. These include limited access to broader markets, inadequate production technology, inconsistent product quality, and difficulties maintaining production continuity. Tarihoran et al. (2023a) identified these constraints as important barriers to the competitiveness of Indonesia's ornamental fish industry.

Small-scale breeders also tend to depend on domestic collectors and exporters, limiting their access to broader market opportunities. Such conditions highlight the importance of strengthening managerial and strategic capabilities to improve market access, product differentiation, and business sustainability. From the Dynamic Capabilities perspective, firms need to develop sensing, seizing, and transforming capabilities to recognize opportunities, mobilize resources, and respond to environmental changes. Hernández-Linares et al. (2021) demonstrated the relevance of dynamic capabilities to SME performance, while Pundziene et al. (2022) emphasized their contribution to competitive performance through open innovation.

Marketing capability represents an important strategic capability that enables firms to translate market knowledge into effective marketing activities and improved business outcomes. It encompasses the ability to understand customer needs, identify market opportunities, develop market offerings, manage customer relationships, and implement marketing strategies (Massiera et al., 2018). These capabilities allow firms to respond to market demands and strengthen their competitive positions through strategic flexibility and organizational capabilities (Mu et al., 2018). Bodlaj and Čater (2022) also demonstrated that marketing capabilities contribute to SME export performance through differentiation advantages. In small-scale ornamental fish farming, marketing capability is reflected in the ability to identify consumer preferences, differentiate products, develop brands, utilize digital platforms, and manage distribution channels. Furthermore, marketing capabilities can be developed through entrepreneurial networking, which facilitates access to resources, market knowledge, and business opportunities (Gliga & Evers, 2023).

In addition to marketing capability, entrepreneurial orientation is an important strategic dimension that influences how firms identify and exploit business opportunities. It is characterized by innovativeness, proactiveness, and risk-taking, which encourage firms to explore new markets and respond to competitive changes (Morgan & Anokhin, 2023). Previous research has demonstrated that entrepreneurial orientation contributes positively to SME performance, particularly when supported by innovation capabilities (Fan et al., 2021). In ornamental fish farming, entrepreneurial orientation may be reflected in the development of new fish varieties, adoption of improved cultivation techniques, exploration of new market segments, and implementation of digital marketing practices. Furthermore, entrepreneurial orientation can strengthen marketing activities by encouraging firms to develop more responsive and innovative marketing approaches (Mu et al., 2019).

Nevertheless, marketing capability and entrepreneurial orientation may not automatically generate superior business performance without the ability to translate strategic resources and entrepreneurial initiatives into innovation. Innovation capability enables firms to develop and implement new products, processes, and organizational practices to respond to market changes and create customer value. Previous studies have established the contribution of innovation capability to SME performance and competitive advantage (Fan et al., 2021; Pundziene et al., 2022). In ornamental fish farming, innovation may involve selective breeding, the development of new fish varieties, improved cultivation techniques, production technologies, and more effective product handling and distribution practices. Therefore, innovation capability may serve as an important mechanism through which marketing capability and entrepreneurial orientation contribute to business performance.

Although previous studies have examined the relationships between marketing capability, entrepreneurial orientation, innovation, and firm performance (Mu et al., 2018; Bodlaj & Čater, 2022; Fan et al., 2021), empirical evidence integrating these constructs within small-scale freshwater ornamental fish farming enterprises remains limited. Previous research on Indonesia's ornamental fish industry has primarily focused on export competitiveness, export barriers, and market-based dynamic capabilities (Tarihoran et al., 2023a, 2023b). Consequently, further investigation is needed to explain how marketing capability and entrepreneurial orientation contribute to business performance both directly and indirectly through innovation capability, particularly among micro-scale freshwater ornamental fish farming enterprises. From a theoretical perspective, the Resource-Based View (RBV) emphasizes the importance of valuable organizational resources and capabilities in achieving competitive advantage, while the Dynamic Capabilities perspective explains how firms develop and reconfigure their resources to respond to environmental changes. Integrating these perspectives provides a basis for understanding how marketing capability and entrepreneurial orientation can contribute to improved business performance through innovation capability. Accordingly, this study examines the effects of marketing capability and entrepreneurial orientation on business performance, with innovation capability as a mediating variable, among small-scale freshwater ornamental fish farming enterprises in Kediri Regency, East Java, Indonesia.

This study contributes to the literature by integrating marketing capability, entrepreneurial orientation, and innovation capability within the Resource-Based View and Dynamic Capabilities perspectives in the context of small-scale freshwater ornamental fish farming. It also examines innovation capability as a mediating variable explaining how marketing and entrepreneurial capabilities are translated into business performance. By focusing on ornamental fish farming enterprises in Kediri Regency, this study provides empirical evidence from a relatively underexplored aquaculture context and offers practical insights for business owners and policymakers in enhancing innovation, competitiveness, and sustainable performance.

2. RESEARCH METHOD

2.1. Research Design and Setting

This study employed a quantitative approach with a cross-sectional survey design to examine the relationships among marketing capability, entrepreneurial orientation, innovation capability, and business performance. This design enabled the researchers to collect data from business owners and operators at a specific point in time and empirically assess the proposed relationships, including the mediating role of innovation capability.

The study was conducted among small-scale freshwater ornamental fish farming businesses in Kediri Regency, East Java, Indonesia. This research setting was selected because the sector provides a relevant context for examining how marketing and entrepreneurial capabilities contribute to innovation and business performance in small-scale enterprises. The research conceptual model is presented in Figure 1.

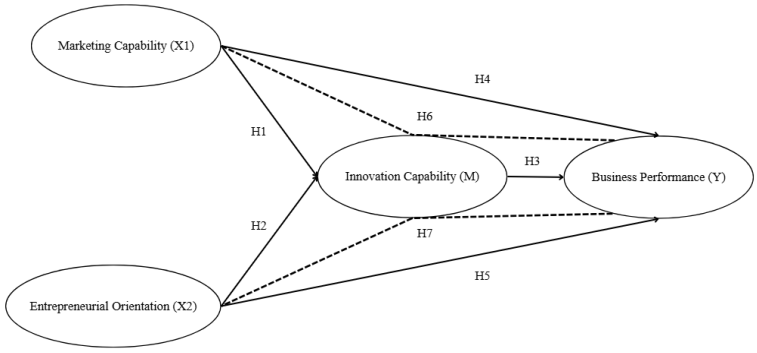


Figure 1. Research conceptual model

2.2. Population and Sample

The target population consisted of owners or operators of micro and small freshwater ornamental fish farming businesses in Kediri Regency, East Java, Indonesia. Respondents were selected using purposive sampling to ensure that participants had sufficient knowledge and direct experience of the business activities examined in this study.

The inclusion criteria were as follows: (1) respondents had to be business owners or operators directly involved in business management and operational decision-making; and (2) their businesses had to have been operating for at least two years. Individuals who were not directly involved in business management or whose businesses had operated for less than two years were excluded from the study.

A total of 215 valid responses met the established criteria and were included in the final analysis. The selection of business owners and operators was intended to ensure that respondents possessed relevant knowledge of their businesses' marketing activities, entrepreneurial practices, innovation activities, and business performance.

2.3. Data Collection and Measurement

Primary data were collected through a structured questionnaire distributed to eligible business owners and operators between July and August 2026. Participation was voluntary, and respondents were informed about the research objectives before completing the questionnaire. The questionnaire consisted of two main sections: (1) respondent and business characteristics, and (2) measurement items for the four main research constructs. All constructs were measured using multi-item scales adapted from previous studies and assessed on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

Marketing capability was measured through market sensing, customer relationship management, branding and positioning, pricing capability, and distribution management, adapted from Bodlaj and Čater (2022) and Homburg and Wielgos (2022). Entrepreneurial orientation was measured through innovativeness, proactiveness, and risk-taking, based on Wales et al. (2020) and Soares and Perin (2020). Innovation capability was assessed through product, process, and organizational innovation, based on Saunila (2020) and Jalil et al. (2022). Business performance was measured using financial and non-financial indicators, including revenue growth, profitability, customer satisfaction, market position, and production efficiency, adapted from Homburg and Wielgos (2022) and Tarihoran et al. (2023).

Additional questions concerning internal management practices, employee perspectives, and sustainability were collected separately and were not included in the measurement of the four main research constructs.

2.4. Data Analysis

The collected data were first screened for completeness and consistency. Incomplete or invalid responses were excluded before the statistical analysis. The remaining data were coded according to the measurement

scale and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4.0. PLS-SEM was selected because it is suitable for predictive research and the assessment of complex structural relationships (Hair & Alamer, 2022).

The analysis involved two main stages: measurement model assessment and structural model assessment (Sarstedt et al., 2022). The measurement model was evaluated in terms of internal consistency reliability, convergent validity, and discriminant validity. Internal consistency reliability was assessed using Cronbach's alpha and composite reliability. Convergent validity was examined through outer loadings and Average Variance Extracted (AVE), while discriminant validity was assessed using the Fornell–Larcker criterion and the Heterotrait–Monotrait ratio (HTMT) (Fornell & Larcker, 1981; Hair et al., 2019; Henseler et al., 2015).

The structural model was evaluated using the coefficient of determination (R^2), effect size (f^2), predictive relevance (Q^2), and path coefficients. Hypotheses were tested using a bootstrapping procedure with 5,000 resamples at a 5% significance level. The mediating role of innovation capability was examined by assessing the significance of the indirect effects.

To assess potential common method bias associated with the use of self-reported questionnaire data, Harman's single-factor test and full collinearity assessment were conducted.

2.5. Ethical Considerations

Participation in this study was voluntary. Respondents were informed about the purpose of the research before completing the questionnaire and were free to decline or discontinue their participation without any consequences. The questionnaire did not require personally identifiable information. All responses were treated confidentially and used solely for academic research purposes.

2.6. Methodological Limitations

This study has several methodological limitations. First, its cross-sectional design captures the relationships among the research constructs at a single point in time and therefore limits the ability to establish causal relationships over time. Second, the use of purposive sampling may restrict the generalizability of the findings beyond small-scale freshwater ornamental fish farming businesses in Kediri Regency. Third, the reliance on self-reported questionnaire data may introduce response bias and common method bias, as the information on marketing capability, entrepreneurial orientation, innovation capability, and business performance was obtained from the respondents' own assessments.

Several measures were taken to address these limitations. Respondents were selected based on their direct involvement in business management and operations to ensure that they had relevant knowledge of the issues being assessed. Established measurement scales were adapted from previous studies, and the collected data were screened for completeness and consistency. In addition, Harman's single-factor test and full collinearity assessment were conducted to examine potential common method bias. Nevertheless, these procedures cannot entirely eliminate the possibility of self-reporting bias.

3. RESULTS AND DISCUSSION

3.1. Results

The research model was analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4.0. The analysis involved the assessment of the measurement and structural models, with hypothesis testing conducted through bootstrapping using 5,000 resamples at a 5% significance level (Hair & Alamer, 2022; Sarstedt et al., 2022).

A total of 215 valid responses were obtained from owners and operators of freshwater ornamental fish farming businesses in Kediri Regency, East Java, Indonesia. Regarding respondent characteristics, the majority were male (65.1%), aged 31–40 years (34.9%), and had completed senior high school or vocational education (45.1%). In terms of business experience, 34.9% had been involved in ornamental fish farming for 8–15 years. Koi was the most commonly cultivated ornamental fish species, accounting for 30.2% of the businesses represented in the sample. Regarding business scale, 40.0% were classified as micro-enterprises and 34.9% as small enterprises.

Potential common method bias was examined using Harman's single-factor test and full collinearity assessment. The first factor accounted for 32.45% of the total variance, which was below the commonly used 50% threshold. Furthermore, all variance inflation factor (VIF) values were below 3.2. These results indicate that common method bias was not a serious concern in the dataset.

3.1.1. Results of the measurement model assessment

The reflective measurement model was assessed to evaluate the reliability and validity of the research constructs. The assessment covered internal consistency reliability, convergent validity, and discriminant validity, following the recommended procedures for PLS-SEM (Hair et al., 2022).

The results presented in Table 1 indicate that all constructs achieved satisfactory levels of internal consistency reliability. Cronbach's alpha values ranged from 0.834 to 0.889, while composite reliability (CR)

values ranged from 0.900 to 0.917. Both measures exceeded the recommended threshold of 0.70, indicating that the measurement items consistently represented their respective constructs.

Table 1. Measurement Model Assessment

Construction	Indicator	Factor Load	AVE	CR	CA
Marketing Capability (MC)	Market Observation	0.824	0.663	0.908	0.876
	Customer Relationship Management	0.812			
	Branding & Positioning	0.798			
	Pricing Strategy	0.786			
	Distribution Channel Management	0.803			
Entrepreneurship Orientation (EO)	Innovation	0.845	0.75	0.9	0.834
	Proactive attitude	0.832			
	Risk taking	0.818			
Innovation Capability (IC)	Product Innovation	0.856	0.764	0.907	0.845
	Process Innovation	0.843			
	Organizational Innovation	0.827			
Business Performance (BP)	Revenue Growth	0.834	0.688	0.917	0.889
	Profit	0.821			
	Customer satisfaction	0.812			
	Market share	0.798			
	Production Efficiency	0.806			

Source: Primary data processed (2026).

Convergent validity was also established. All indicator loadings ranged from 0.786 to 0.856, exceeding the recommended threshold of 0.70. Furthermore, the Average Variance Extracted (AVE) values for all constructs ranged from 0.663 to 0.764, exceeding the minimum threshold of 0.50. These results indicate that each construct explains more than half of the variance in its respective indicators, providing evidence of adequate convergent validity.

Discriminant validity was assessed using the Fornell–Larcker criterion and the Heterotrait–Monotrait ratio (HTMT). As presented in Table 2, the square root of the AVE for each construct, represented by the diagonal values, was greater than its correlations with the other constructs. This indicates that each construct shares more variance with its own indicators than with other constructs in the model. Furthermore, all HTMT values presented in Table 3 were below the threshold of 0.85, providing additional evidence that the four constructs are empirically distinct (Hair et al., 2022).

Table 2. Discriminant Validity (Fornell-Larcker Criteria)

Construction	MC	EO	IC	BP
Marketing Capability (MC)	0.814			
Entrepreneurship Orientation (EO)	0.567	0.866		
Innovation Capability (IC)	0.623	0.612	0.874	
Business Performance (BP)	0.598	0.578	0.645	0.829

Source: Primary data processed (2026).

Table 3. Heterotrait-Monotrait Ratio (HTMT)

Construction	MC	EO	IC	BP
Marketing Capability (MC)				
Entrepreneurship Orientation (EO)	0.645			
Innovation Capability (IC)	0.689	0.678		
Business Performance (BP)	0.656	0.634	0.712	

Source: Primary data processed (2026).

Overall, the measurement model demonstrated satisfactory internal consistency reliability, convergent validity, and discriminant validity. Therefore, the measurement instruments were considered adequate for proceeding to the structural model assessment and hypothesis testing.

3.1.2. Path Coefficients (Direct and Indirect Effects)

The structural model was evaluated by examining the path coefficients, t-statistics, and p-values obtained through bootstrapping with 5,000 resamples. Path coefficients (β) indicate the direction and strength of the relationships between constructs, while t-statistics and p-values are used to determine whether the hypothesized relationships are statistically significant. A relationship is considered significant when the t-statistic exceeds 1.96 and the p-value is below 0.05. The results of the direct and indirect effects are presented in Table 4.

Table 4. Path Coefficient Results (Direct Effect) and (Indirect Effect)

Hypothesis	Path Coefficient (β)	T-Statistics	P-Values	Decision
H1: MC → BP	0.287	3,845	0,000	Supported
H2: MC → IC	0.398	5,234	0,000	Supported
H3: EO → BP	0.214	2,987	0.003	Supported
H4: EO → IC	0.356	4,876	0,000	Supported
H5: IC → BP	0.342	4,523	0,000	Supported
H6: MC → IC → BP	0.136	3,876	0,000	Supported
H7: EO → IC → BP	0.122	3,654	0,000	Supported

Source: Primary data processed (2026).

The results indicate that all seven hypothesized relationships are positive and statistically significant. Regarding the direct effects, Marketing Capability (MC) has a positive and significant effect on Business Performance (BP), with a path coefficient of 0.287 ($t = 3.845$; $p < 0.001$). This finding suggests that stronger marketing capabilities are associated with better business performance among small-scale freshwater ornamental fish farming businesses. Marketing Capability also positively influences Innovation Capability (IC), as indicated by a coefficient of 0.398 ($t = 5.234$; $p < 0.001$). This result demonstrates that the ability to understand market conditions, manage customer relationships, develop branding and positioning, determine pricing strategies, and manage distribution channels is associated with stronger innovation capability.

Entrepreneurial Orientation (EO) also demonstrates positive and significant relationships with both Business Performance and Innovation Capability. The relationship between EO and BP has a coefficient of 0.214 ($t = 2.987$; $p = 0.003$), indicating that an entrepreneurial orientation contributes positively to business performance. Furthermore, EO has a positive effect on IC, with a coefficient of 0.356 ($t = 4.876$; $p < 0.001$). This finding indicates that innovativeness, proactiveness, and risk-taking are important entrepreneurial characteristics associated with the development of innovation capability. In addition, IC positively affects BP, with a coefficient of 0.342 ($t = 4.523$; $p < 0.001$), suggesting that the ability to develop product, process, and organizational innovations is associated with improved business performance.

The indirect effects further reveal the mediating role of Innovation Capability in the relationships between the independent variables and Business Performance. The indirect effect of MC on BP through IC is positive and significant, with a coefficient of 0.136 ($t = 3.876$; $p < 0.001$). Similarly, the indirect effect of EO on BP through IC is also positive and significant, with a coefficient of 0.122 ($t = 3.654$; $p < 0.001$). These results indicate that Innovation Capability serves as a mechanism through which Marketing Capability and Entrepreneurial Orientation contribute to Business Performance.

Furthermore, the direct effects of MC on BP and EO on BP remain statistically significant alongside their respective significant indirect effects through IC. This pattern indicates partial mediation, meaning that Innovation Capability explains part, but not all, of the relationships between Marketing Capability and Business Performance, as well as between Entrepreneurial Orientation and Business Performance. In other words, both MC and EO are associated with business performance through their direct relationships and through the development of innovation capability.

Overall, the structural model results support all seven hypotheses. The findings highlight the complementary roles of Marketing Capability, Entrepreneurial Orientation, and Innovation Capability in explaining Business Performance among small-scale freshwater ornamental fish farming businesses. In particular, Innovation Capability represents an important pathway through which marketing-related capabilities and entrepreneurial orientation are translated into improved business performance.

3.2. Discussion

3.2.1. The Effect of Marketing Capability on Business Performance

The findings demonstrate that Marketing Capability has a positive and significant effect on Business Performance. This result indicates that the ability of small-scale freshwater ornamental fish farming businesses to understand market conditions, maintain customer relationships, establish appropriate branding and positioning, determine competitive prices, and manage distribution channels contributes to better business performance. These capabilities enable business owners and operators to identify market opportunities, understand customer preferences, and respond more effectively to changing market demands. In the ornamental fish farming context, understanding consumer preferences regarding fish varieties, quality, size, and price can help businesses develop more appropriate marketing strategies and strengthen their market position.

This finding is consistent with Homburg and Wielgos (2022), who emphasize the contribution of marketing-related capabilities to firm performance. The present study extends this perspective to small-scale freshwater ornamental fish farming businesses, where marketing capabilities are important not only for selling products but also for maintaining customer relationships and sustaining market competitiveness. Therefore, Marketing Capability represents an important managerial resource that supports the achievement of better business performance.

3.2.2. The Effect of Marketing Capability on Innovation Capability

The results also reveal that Marketing Capability has a positive and significant effect on Innovation Capability. This finding suggests that the ability to understand market needs and manage customer relationships can provide valuable information for developing innovations. Market sensing, for example, allows business owners and operators to identify changes in consumer preferences and emerging market opportunities. Meanwhile, customer feedback and market interactions can provide insights that support improvements in products, production processes, and organizational practices.

In small-scale ornamental fish farming businesses, market information may encourage business owners to consider product improvements, more effective cultivation processes, or adjustments to business practices in response to customer expectations. These examples illustrate how marketing-related knowledge can become an input for innovation development. This result is in line with Aljanabi (2022), who highlights the relationship between marketing capability and innovation capability in supporting innovation-related outcomes. Thus, Marketing Capability should not be viewed solely as a means of improving market access but also as a source of knowledge that can stimulate innovation within small-scale businesses.

3.2.3. The Effect of Entrepreneurial Orientation on Business Performance

The findings indicate that Entrepreneurial Orientation has a positive and significant effect on Business Performance. This result suggests that businesses characterized by innovativeness, proactiveness, and risk-taking tend to demonstrate better performance. Innovativeness encourages business owners and operators to explore new ideas and approaches, while proactiveness supports the ability to anticipate market opportunities. Risk-taking, meanwhile, reflects their willingness to make calculated decisions under uncertain business conditions.

In the context of freshwater ornamental fish farming, entrepreneurial orientation may be reflected in the willingness to explore new market segments, introduce different ornamental fish varieties, or consider alternative approaches to business development. Such initiatives may help businesses respond to competition and changing consumer preferences. This finding supports Ngo (2023), who identifies the contribution of Entrepreneurial Orientation to SME performance. It also reinforces the importance of entrepreneurial behavior in small-scale businesses, where owners and operators often need to make strategic decisions while dealing with resource limitations and market uncertainty.

3.2.4. The Effect of Entrepreneurial Orientation on Innovation Capability

Entrepreneurial Orientation also has a positive and significant effect on Innovation Capability. This finding indicates that innovativeness, proactiveness, and risk-taking are important characteristics associated with the development of innovation within small-scale businesses. Innovativeness encourages the exploration of new ideas, proactiveness motivates businesses to anticipate opportunities and respond to emerging demands, and risk-taking supports the willingness to experiment with new approaches despite uncertain outcomes.

For freshwater ornamental fish farming businesses, these entrepreneurial characteristics may create opportunities to consider improvements in cultivation techniques, product development, and business management practices. For example, businesses may explore selective breeding approaches, evaluate alternative cultivation technologies, or develop different ways of presenting and marketing their products. These are potential forms of innovation relevant to the sector rather than practices directly measured in this study. The finding is consistent with Ngo (2023), who highlights the relationship between Entrepreneurial Orientation and innovation-related outcomes among SMEs. Accordingly, Entrepreneurial Orientation can be understood as an important behavioral foundation for developing Innovation Capability.

3.2.5. The Effect of Innovation Capability on Business Performance

The results show that Innovation Capability has a positive and significant effect on Business Performance. This finding indicates that the ability to develop product, process, and organizational innovations contributes to better business performance. Product innovation may help businesses improve the characteristics and attractiveness of their ornamental fish products. Process innovation can support more efficient cultivation activities and improve production consistency, while organizational innovation may enhance business coordination and management practices.

In small-scale freshwater ornamental fish farming, improvements in cultivation processes, product handling, and business management may contribute to operational efficiency, product quality, customer satisfaction, and market competitiveness. These improvements are particularly relevant for businesses operating with limited resources, as innovation can provide alternative ways to improve performance without

necessarily relying on business expansion alone. This finding is consistent with Otache (2024), who identifies Innovation Capability as an important determinant of SME performance. Therefore, Innovation Capability represents a strategic capability that enables small-scale businesses to translate new ideas and improvements into business outcomes.

3.2.6. The Mediating Role of Innovation Capability in the Relationship between Marketing Capability and Business Performance

The mediation analysis demonstrates that Innovation Capability partially mediates the relationship between Marketing Capability and Business Performance. This finding indicates that Marketing Capability contributes to business performance through two pathways: a direct pathway and an indirect pathway through Innovation Capability. The direct relationship suggests that marketing capabilities can support business performance through improved market understanding, customer relationships, branding, pricing, and distribution management. Meanwhile, the indirect relationship indicates that market-related knowledge and customer insights can also support the development of innovations that subsequently contribute to business performance.

This result highlights the importance of transforming market knowledge into innovative improvements. For example, information about customer preferences may encourage businesses to consider product improvements or changes in cultivation and business management processes. Such innovations may strengthen the contribution of marketing capabilities to business performance. This finding is consistent with Aljanabi (2022), who emphasizes the role of Innovation Capability in translating marketing-related capabilities into innovation outcomes. The partial mediation also indicates that Innovation Capability is not the only mechanism through which Marketing Capability relates to Business Performance. Other pathways may contribute to this relationship, although they are not examined in the present model.

3.2.7. The Mediating Role of Innovation Capability in the Relationship between Entrepreneurial Orientation and Business Performance

The findings further reveal that Innovation Capability partially mediates the relationship between Entrepreneurial Orientation and Business Performance. This result suggests that Entrepreneurial Orientation contributes to business performance both directly and indirectly through Innovation Capability. The direct effect indicates that entrepreneurial characteristics, including innovativeness, proactiveness, and risk-taking, are associated with business performance. The indirect effect demonstrates that these characteristics can also support the development of product, process, and organizational innovations, which subsequently contribute to business performance.

In the context of small-scale freshwater ornamental fish farming, an entrepreneurial orientation may encourage business owners and operators to identify new opportunities and consider alternative business approaches. However, entrepreneurial initiatives are more likely to contribute to sustained performance when they are translated into practical innovations. For instance, exploring new market opportunities may be accompanied by product development or improvements in cultivation and management processes. These examples illustrate possible mechanisms through which entrepreneurial behavior can be translated into business outcomes. The partial mediation indicates that Innovation Capability explains part, but not all, of the relationship between Entrepreneurial Orientation and Business Performance. This suggests that other mechanisms beyond innovation may also contribute to the relationship.

3.2.8. Comprehensive discussion

Taken together, the findings demonstrate the complementary roles of Marketing Capability, Entrepreneurial Orientation, and Innovation Capability in explaining Business Performance among small-scale freshwater ornamental fish farming businesses. Marketing Capability provides market-related knowledge and supports the ability to respond to customer needs, while Entrepreneurial Orientation encourages businesses to identify opportunities and pursue new initiatives. Innovation Capability serves as an important mechanism through which these capabilities and entrepreneurial behaviors can be translated into improvements in business performance.

The findings contribute to the understanding of capability-based explanations of business performance in small-scale businesses. They suggest that business performance is not determined solely by the ability to access and respond to markets or by entrepreneurial behavior independently. Rather, the ability to transform market knowledge and entrepreneurial initiatives into product, process, and organizational innovations also plays an important role. Consequently, strengthening marketing capabilities, fostering entrepreneurial orientation, and developing innovation capability should be considered complementary managerial priorities for improving the competitiveness and performance of small-scale freshwater ornamental fish farming businesses.

4. CONCLUSION

This study examined the effects of Marketing Capability (MC) and Entrepreneurial Orientation (EO) on Business Performance (BP), with Innovation Capability (IC) as a mediating variable among small-scale freshwater ornamental fish farming businesses in Kediri Regency, Indonesia. Based on the PLS-SEM analysis of 215 respondents, the findings demonstrate that MC positively and significantly affects both BP and IC. Similarly, EO has positive and significant effects on BP and IC, while IC also positively influences BP. These findings confirm that marketing-related capabilities and entrepreneurial orientation are important factors associated with business performance in small-scale freshwater ornamental fish farming.

The mediation analysis further reveals that IC partially mediates the relationships between MC and BP, as well as between EO and BP. This indicates that marketing capabilities and entrepreneurial orientation contribute to business performance not only through their direct effects but also through the development of innovation capability. Innovation capability therefore represents an important mechanism through which market-related knowledge and entrepreneurial initiatives can be translated into improvements in products, production processes, and organizational practices.

The findings provide several practical and policy implications. First, local governments and relevant agencies should strengthen the marketing capabilities of small-scale ornamental fish farming businesses through practical training in market identification, customer relationship management, branding, pricing strategies, and distribution channel development. Second, entrepreneurship development programs should encourage business owners and operators to strengthen their innovativeness, proactiveness, and ability to make calculated business decisions. Third, targeted innovation support should be provided through technical assistance, cultivation technology training, business mentoring, and collaboration with relevant research institutions and ornamental fish farming communities. Such programs may help businesses translate market information and entrepreneurial initiatives into product, process, and organizational innovations.

Furthermore, local government agencies and business support institutions should facilitate access to market information, business networks, and appropriate financing opportunities to support innovation adoption and business development. These interventions should be designed according to the operational conditions and resource limitations of micro and small ornamental fish farming businesses. Through coordinated support, policymakers can help strengthen the competitiveness and sustainability of the local ornamental fish farming sector.

Despite its contributions, this study has several limitations. The cross-sectional research design limits the ability to examine changes in business performance and capability development over time. In addition, the use of purposive sampling and self-reported data may limit the generalizability of the findings and introduce potential response bias. Future research could employ longitudinal designs, include additional business contexts or geographical areas, and examine other factors that may influence business performance, such as market turbulence, digital transformation, and access to resources.

Overall, this study highlights the importance of integrating Marketing Capability, Entrepreneurial Orientation, and Innovation Capability in supporting the business performance of small-scale freshwater ornamental fish farming businesses. The findings contribute to the understanding of capability-based approaches to business performance in the SME context and provide practical directions for business owners, operators, and policymakers seeking to strengthen the competitiveness of the ornamental fish farming sector.

criteria for women to fill out the research questionnaire.

ACKNOWLEDGEMENTS

The authors would like to express their sincere gratitude to the owners and operators of small-scale freshwater ornamental fish farming enterprises in Kediri Regency, Indonesia, who participated in this study and provided valuable information. The authors also appreciate the assistance of all individuals who supported the data collection and research process.

REFERENCES

Aljanabi, A.R. (2022). The role of innovation capability in the relationship between marketing capability and new product development: Evidence from the telecommunication sector. European Journal of Innovation Management, 25(1), 73–94. https://doi.org/10.1108/EJIM-04-2020-0146

Bodlaj, M., & Čater, B. (2022). 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

Fan, M., Qalati, S.A., Khan, MAS, Shah, SMM, Ramzan, M., & Khan, R.S. (2021). Effects of entrepreneurial orientation on social media adoption and SME performance: The moderating role of innovation capabilities. PLOS ONE, 16(4), e0247320. https://doi.org/10.1371/journal.pone.0247320

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research, 18(1), 39–50. https://doi.org/10.1177/002224378101800104

Gliga, G., & Evers, N. (2023). Marketing capability development through networking - An entrepreneurial marketing perspective. Journal of Business Research, 156, 113472. https://doi.org/10.1016/j.jbusres.2022.113472

Hair, J.F., & Alamer, A. (2022). Partial least squares structural equation modeling (PLS-SEM) in second language and education research: Guidelines using an applied example. Research Methods in Applied Linguistics, 1(3), 100027. https://doi.org/10.1016/j.rmal.2022.100027

Hair, J.F., Risher, J.J., Sarstedt, M., & Ringle, C.M. (2019). 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

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. Journal of the Academy of Marketing Science, 43(1), 115–135. https://doi.org/10.1007/s11747-014-0403-8

Hernández-Linares, R., Kellermanns, F.W., & López-Fernández, M.C. (2021). Dynamic capabilities and SME performance: The moderating effect of market orientation. Journal of Small Business Management, 59(1), 162–195. https://doi.org/10.1111/jsbm.12474

Homburg, C., & Wielgos, D. M. (2022). The value relevance of digital marketing capabilities to firm performance. Journal of the Academy of Marketing Science, 50, 666–688. https://doi.org/10.1007/s11747-022-00858-7

Jalil, MF, Ali, A., & Kamarulzaman, R. (2022). Does innovation capability improve SME performance in Malaysia? The mediating effect of technology adoption. International Journal of Entrepreneurship and Innovation, 23(4), 253–267. https://doi.org/10.1177/14657503211048967

Joensuu-Salo, S., Sorama, K., Viljamaa, A., & Varamäki, E. (2018). Firm performance among internationalized SMEs: The interplay of market orientation, marketing capability and digitalization. Administrative Sciences, 8(3), 31. https://doi.org/10.3390/admsci8030031

Massiera, P., Trinchera, L., & Russolillo, G. (2018). Evaluating the presence of marketing capabilities: A multidimensional, hierarchical index. International Journal of Business and Management, 13(3), 1–13. https://doi.org/10.1177/2051570718759003

Morgan, T., & Anokhin, S. (2023). Entrepreneurial orientation and new product performance in SMEs: The mediating role of customer participation. Journal of Business Research, 164, 113921. https://doi.org/10.1016/j.jbusres.2023.113921

Moro, S., et al. (2022). Digital Marketing Utilization Index for Evaluating and Improving Company Digital Marketing Capability. Journal of Open Innovation: Technology, Markets, and Complexity, 8(3), 153. https://doi.org/10.3390/joitmc8030153

Mu, J., Bao, Y., Sekhon, T., Qi, J., & Love, E. (2018). Outside-in marketing capability and firm performance. Industrial Marketing Management, 75, 37–54. https://doi.org/10.1016/j.indmarman.2018.03.010

Mu, J., Bao, Y., Sekhon, T., Qi, J., & Love, E. (2019). Ambidextrous marketing capabilities and performance: How and when entrepreneurial orientation makes a difference. Industrial Marketing Management, 77, 129–142. https://doi.org/10.1016/j.indmarman.2018.11.014

Ngo, Q.-H. (2023). The impact of entrepreneurial orientation on SMEs' performance in a transitional economy: The mediating role of differentiation advantages and innovation capability. SAGE Open, 13(4). https://doi.org/10.1177/21582440231203035

Pundziene, A., Nikou, S., & Bouwman, H. (2022). 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

Sarstedt, M., Hair, J.F., Pick, M., Liengaard, B.D., Radomir, L., & Ringle, C.M. (2022). Progress in partial least squares structural equation modeling use in marketing research in the last decade. Psychology & Marketing, 39(5), 1035–1064. https://doi.org/10.1002/mar.21640

Saunila, M. (2020). Innovation capability in SMEs: A systematic review of the literature. Journal of Innovation & Knowledge, 5(4), 260–265. https://doi.org/10.1016/j.jik.2019.11.002

Soares, M. do C., & Perin, M. G. (2020). Entrepreneurial orientation and firm performance: An updated meta-analysis. RAUSP Management Journal, 55(2), 143–159. https://doi.org/10.1108/RAUSP-01-2019-0014

Tarihoran, ADB, Hubeis, M., Jahroh, S., & Zulbainarni, N. (2023a). Competitiveness of and barriers to Indonesia's exports of ornamental fish. Sustainability, 15(11), 8711. https://doi.org/10.3390/su15118711

Tarihoran, ADB, Hubeis, M., Jahroh, S., & Zulbainarni, N. (2023b). Market-based dynamic capabilities for MSMEs: Evidence from Indonesia's ornamental fish industry. Journal of Open Innovation: Technology, Markets, and Complexity, 9(3), 100123. https://doi.org/10.1016/j.joitmc.2023.100123

Wales, W.J., Covin, J.G., & Monsen, E. (2020). Entrepreneurial orientation: The necessity of a multilevel conceptualization. Strategic Entrepreneurship Journal, 14(4), 639–660. https://doi.org/10.1002/sej.1344