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# Organizational Resilience in MSME Sustainability: Roles of Entrepreneurial Orientation, Internal Capabilities, and Business Environment

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## Abstract

This study examined how entrepreneurial orientation, internal capabilities, and business environment influence MSME operational sustainability through organizational resilience. Using a quantitative, explanatory, cross-sectional survey design, data were collected from 331 owners or managers of traditional weaving MSMEs in Nusa Tenggara Timur, Indonesia. The data were analyzed using Partial Least Squares Structural Equation Modeling to test direct and indirect relationships among the study constructs. The results show that entrepreneurial orientation and internal capabilities did not have significant direct effects on operational sustainability. However, both variables had significant positive effects on organizational resilience, which in turn significantly enhanced operational sustainability. The business environment had the strongest effect in the model, exerting both a significant direct effect on operational sustainability and an indirect effect through organizational resilience. These findings indicate that organizational resilience functions as the key mediating capability through which strategic posture and internal strengths are translated into sustained business operations. The study extends MSME sustainability research by moving beyond direct-effect explanations and demonstrating the importance of resilience as an organizational mechanism. Practically, the findings suggest that resilience-oriented interventions, combined with improvements in external business conditions, are essential for strengthening the viability of culturally embedded and structurally constrained MSMEs in Eastern Indonesia.

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## INTRODUCTION

Micro, small, and medium-sized enterprises (MSMEs) remain central to inclusive growth, employment generation, and local value creation, especially in developing and emerging economies, where small firms dominate the business landscape and absorb labor at scale (Kalaiselvi & Maithily, 2024; Pedraza, 2021; Tumiwa & Nagy, 2021). Nevertheless, the environment in which MSMEs operate has become markedly more unstable. Beyond the lingering consequences of pandemic-era disruptions, MSMEs are now exposed to overlapping pressures stemming from financing volatility, digital disruption, market turbulence, rising input costs, and the demands of green transition policy. Recent work has described this environment as a polycrisis, in which firms no longer confront isolated shocks but multiple, intersecting disturbances that test their ability to survive, adapt, and renew (Maalouf et al., 2025; Tunçalp, 2025). Official policy reports point in the same direction: MSMEs continue to face deep financing constraints, uneven policy delivery, capability gaps in digital adoption, and growing pressure to upgrade toward more resilient and sustainable business models (ERIA et al., 2024; Febrianita et al., 2023; Maalouf et al., 2025; Setiawan et al., 2026).

Within this environment, entrepreneurial orientation has become an important lens for understanding why some MSMEs respond more effectively to uncertainty than others. The construct is commonly associated with innovativeness, proactiveness, and risk-taking, while later studies also emphasize autonomy and competitive aggressiveness as important dimensions of entrepreneurial behavior (Al-Mamary & Alshallaqi, 2022; Alam et al., 2022; Maciejewski, et al., 2023). Firms with stronger entrepreneurial orientation are generally better positioned to identify opportunities early, experiment under uncertain conditions, and respond more proactively to market change. Empirical evidence suggests that entrepreneurial orientation can strengthen crisis response, strategic renewal, and business performance, although its effects are not always consistent across settings or outcome variables (Puumalainen et al., 2023; Suder, 2023). This indicates that entrepreneurial orientation remains a relevant explanatory factor for MSME sustainability, but its influence is unlikely to be purely direct and may depend on organizational mechanisms and contextual conditions.

At the same time, MSME continuity depends not only on entrepreneurial posture but also on internal capabilities. These include managerial capability, financial literacy, innovation capability, knowledge management, and the effective use of technology in day-to-day operations (Cristache et al., 2025; Edeh et al., 2022; Wach, Maciejewski, et al., 2023). Recent studies show that financial literacy can improve firm performance and sustainability indirectly through better financing access and more effective technology use, while knowledge management and innovation capability contribute to longer-term competitiveness and organizational performance (Siddik et al., 2023; V. et al., 2024; Widyastuti et al., 2025). These findings suggest that internal capabilities help determine whether MSMEs can convert strategic intent into operational endurance. However, these capabilities do not function independently of the broader context in which firms operate.

The business environment remains a critical external condition shaping what MSMEs can realistically achieve. Across ASEAN, current policy priorities center on finance, digitalization, market access, skills upgrading, sustainability, and institutional coordination (Kai et al., 2026; Suranto et al., 2025). In Indonesia, recent policy discussions further highlight the importance of digital payments, logistics, regulatory alignment, digital trust, and financial

inclusion for strengthening MSME participation in domestic and international markets (Chibueze et al., 2025; Pramesti, 2025; Tandilino et al., 2025). The implication is that MSME sustainability is shaped by the joint influence of entrepreneurial orientation, internal capabilities, and the degree to which the surrounding business environment enables or constrains adaptation. In other words, MSME sustainability is neither purely strategic nor purely contextual. It is produced through the interaction between what firms can do internally and what their environments allow them to sustain externally (Saptono et al., 2024; Zaman et al., 2025).

This highlights organizational resilience as a conceptually important mechanism. Organizational resilience is no longer understood simply as the ability to recover after disruption. It is increasingly viewed as a higher-order capability through which firms anticipate threats, cope with shocks, adapt routines, and renew operations under changing conditions (Jiang et al., 2019; Nyamboga, 2026; Raj et al., 2023). From a dynamic-capabilities perspective, resilience is closely related to the ability to sense, seize, and reconfigure resources in response to environmental volatility (Ammirato et al., 2026; Garrido-Moreno et al., 2024; Neukam et al., 2025; Zabel & O'Brien, 2024). For MSMEs, this means that resilience may explain how entrepreneurial orientation, internal capabilities, and business environment are translated into continued operations (Fitriani et al., 2025; Myint & Kyaw, 2024; Putri et al., 2026; Rachmawati & Surya, 2025; Yenti & Afriyeni, 2025). Recent research supports this interpretation by showing that resilience is closely linked to crisis preparedness, coping strategies, and long-term adaptation, while entrepreneurial and technology-related capabilities can strengthen resilience under turbulence (Manzini et al., 2025; Prayag et al., 2024; Shatila et al., 2025). Thus, resilience appears to be more than a desirable outcome. It may serve as a mediating mechanism linking antecedent conditions to operational sustainability.

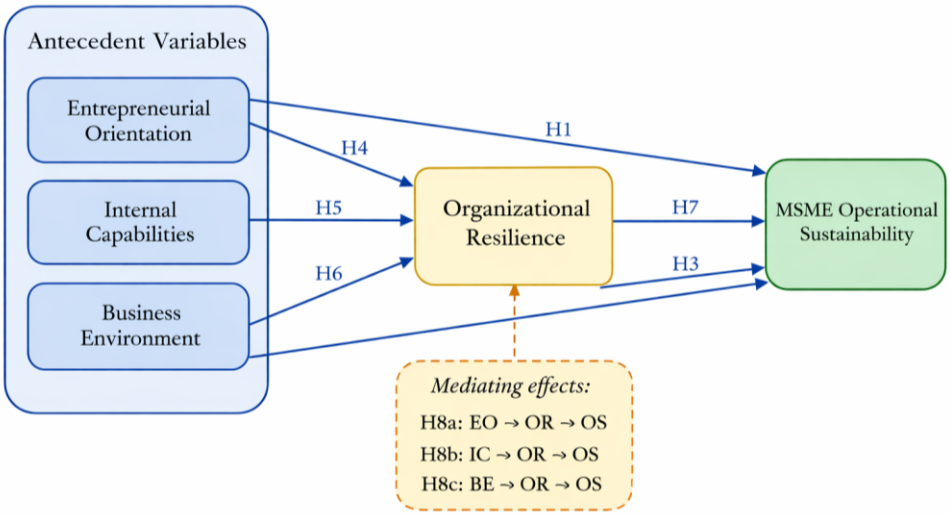


**Fig 1. The Mediating Role of Organizational Resilience in MSME Operational Sustainability**

Figure 1 presents the theoretical framework of the study. It shows that entrepreneurial orientation, internal capabilities, and business environment are positioned as antecedent variables that may influence MSME operational sustainability both directly and indirectly through organizational resilience. In this framework, organizational resilience functions as the central mediating construct that links strategic posture, internal organizational strength, and external business conditions to the sustainability of MSME operations. The

model proposes that entrepreneurial orientation, internal capabilities, and business environment each shape the level of organizational resilience, while these three variables may also have direct relationships with operational sustainability. At the same time, organizational resilience is expected to exert a direct positive influence on MSME operational sustainability. Thus, the framework reflects the main assumption of the study that sustained business operations are not determined only by firm-level resources or external conditions in isolation, but by the extent to which these factors are converted into adaptive, resilient organizational capacity.

Despite growing interest in MSME sustainability and resilience, several gaps remain in the literature. Many studies still focus on the direct effects of entrepreneurial orientation, internal capability, and business environment on performance or sustainability, without clearly explaining the organizational process that links these factors to durable operational outcomes (Isichei et al., 2020; Rehman et al., 2022; Rosenbusch et al., 2013; Wahyuni & Sara, 2020). In addition, resilience is often discussed only as a general concept or as an outcome, rather than as a mediating capability. A further limitation is context. In Indonesia, MSME studies often use broad national data, focus on specific sectors, or concentrate on more developed business areas. This limits understanding because regional differences in infrastructure, finance, market access, and policy support can shape MSME resilience in different ways, especially in Eastern Indonesia (Dayuni, 2024; Syafrida et al., 2025).

This study addresses these gaps by examining organizational resilience as the mediating mechanism through which entrepreneurial orientation, internal capabilities, and business environment influence MSME operational sustainability. Conceptually, the study brings together entrepreneurial-orientation logic, dynamic-capabilities thinking, and resilience scholarship to explain not only whether MSMEs sustain operations, but also how they achieve sustainability under environmental uncertainty. Empirically, it contributes evidence from Eastern Indonesia, a setting that remains underrepresented in the literature on MSME resilience and operational sustainability. Methodologically, it applies Partial Least Squares Structural Equation Modeling (PLS-SEM) to test a mediation model involving interrelated strategic, organizational, and environmental constructs. In this way, the study moves beyond direct-effect explanations and offers a more process-oriented account of MSME sustainability. Accordingly, this study is guided by the following research questions:

RQ1. How do entrepreneurial orientation, internal capabilities, and business environment influence MSME operational sustainability?

RQ2. How do entrepreneurial orientation, internal capabilities, and business environment influence organizational resilience?

RQ3. Does organizational resilience mediate the relationships among entrepreneurial orientation, internal capabilities, the business environment, and MSME operational sustainability?

This study makes four contributions. It extends the literature by positioning organizational resilience as a mediating capability rather than treating it merely as a descriptive outcome. It develops MSME sustainability research by integrating strategic, internal, and environmental antecedents within a single explanatory framework. It provides region-sensitive evidence from Eastern Indonesia, thereby reducing the tendency to generalize MSME findings across highly different subnational contexts. It also offers practical implications for MSME support programs and policy design by identifying resilience-building pathways that may strengthen operational sustainability in

the face of uncertainty.

## METHODS

### Research Design

This study employed a quantitative, explanatory, cross-sectional survey design to test the relationships among entrepreneurial orientation, internal capabilities, business environment, organizational resilience, and MSME operational sustainability. An explanatory design was appropriate because the study aimed to evaluate theoretically specified direct and indirect relationships, rather than merely describe firm characteristics or attitudes. The model was structured to examine whether organizational resilience functions as a mediating capability linking strategic, internal, and environmental antecedents to sustained business operations. This design is consistent with prior survey-based MSME research that uses latent-variable modeling to test organizational mechanisms under uncertainty (Hair & Alamer, 2022; Henseler, 2021; Hidayat et al., 2025; Eriyanti et al., 2020; Sarstedt et al., 2020; Engkizar et al., 2024; 2026; Sari et al., 2025).

The empirical model positioned entrepreneurial orientation, internal capabilities, and business environment as exogenous constructs, organizational resilience as the mediating construct, and MSME operational sustainability as the endogenous construct. The model was grounded in the entrepreneurial-orientation literature, the dynamic-capabilities perspective, and resilience scholarship, all of which suggest that business continuity depends on how firms mobilize internal strengths and respond to external conditions through adaptive capabilities (Duchek, 2020; Teece, 2007; Wach, Duong, et al., 2023).

Because the study involved multiple latent constructs, simultaneous estimation of direct and indirect effects, and a mediation structure, Partial Least Squares Structural Equation Modeling (PLS-SEM) was selected as the analytical approach. PLS-SEM is appropriate when the research objective includes prediction, theory extension, and mediation testing in relatively complex models, especially in applied organizational research settings (Chinnaraju, 2025; Guenther et al., 2023; Hair et al., 2014). For clarity, Figure 2 summarizes the overall research design, including the theoretical basis, model specification, and data analysis procedure adopted in this study.

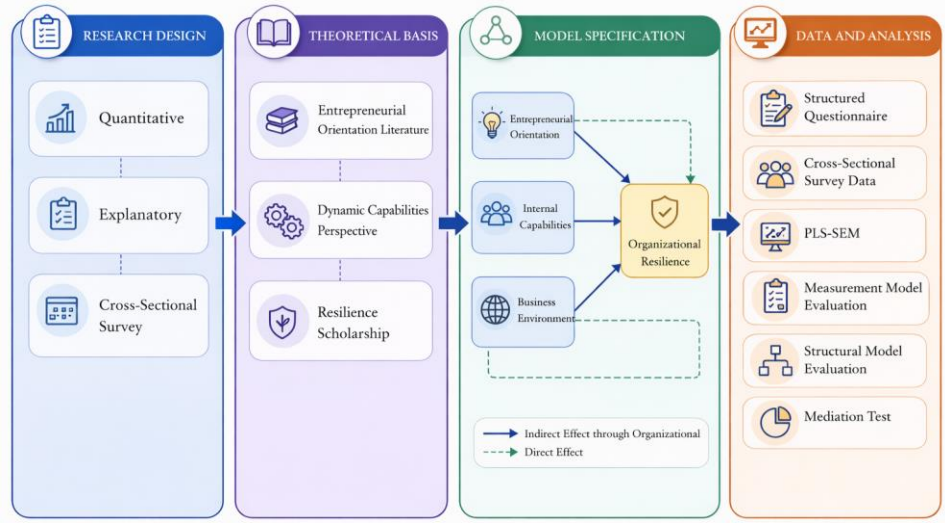


**Fig 2. Research Design, Conceptual Model, and Data Analysis Framework**

### Population, Sampling, and Respondents

The population consisted of MSMEs operating in the traditional

weaving sector in Nusa Tenggara Timur. The study used purposive sampling to select respondents with sufficient knowledge of business operations and decision-making. Respondents had to be MSME owners or managers, operate in the weaving sector, and have at least two years of business experience. In the final dataset, all respondents had more than 5 years of experience, which strengthened the quality of the responses by making them familiar with long-term operational dynamics and environmental challenges.

A total of 331 valid responses were obtained from weaving MSMEs located in Kupang Regency, Kupang City, Timor Tengah Selatan, Timor Tengah Utara, West Sumba, East Sumba, Alor, and East Manggarai. This coverage allowed the study to capture variation across local business environments within NTT.

**Table 1. Study profile and sample characteristics**

| Aspect | Description |
|---|---|
| Research approach | Quantitative |
| Research design | Explanatory, cross-sectional survey |
| Study area | Nusa Tenggara Timur, Indonesia |
| Sector | Traditional weaving MSMEs |
| Sampling technique | Purposive sampling |
| Respondent type | MSME owner or manager |
| Final sample size | 331 |
| Minimum inclusion criterion | At least 2 years of operation |
| Final respondent characteristic | All respondents had more than 5 years of business experience |
| Locations covered | Kupang Regency, Kupang City, Timor Tengah Selatan, Timor Tengah Utara, West Sumba, East Sumba, Alor, East Manggarai |

**Instrument Development and Measurement of Constructs**

Data were collected through a structured questionnaire designed to capture respondents' perceptions of the five latent constructs. All constructs were modeled as reflective and measured using a five-point Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree. This format is widely used in management and MSME research because it is cognitively manageable for respondents while providing sufficient response variability for latent-variable analysis (Hair & Alamer, 2022; Sarstedt et al., 2022).

The questionnaire items were developed by adapting established concepts from the literature to the context of traditional weaving MSMEs in Nusa Tenggara Timur. The adaptation process prioritized conceptual fidelity, contextual relevance, and item clarity. Rather than importing scales without modification, the items were tailored to reflect the realities of small, culturally embedded firms operating under resource constraints. This approach is consistent with recommended practice when extending constructs across institutional and sectoral contexts (Boateng et al., 2018; Taherdoost, 2018).

**Table 2. Construct-measurement matrix**

| Construct | Core Dimensions | Indicators | Literature basis |
|---|---|---|---|
| Entrepreneurial orientation | Innovativeness, proactiveness, risk-taking | Seeking new opportunities, acting proactively, and being willing to | (Al-Mamary & Alshallaqi, 2022; A. Alam, 2022; Wach, Duong, et al., 2023) |

| | | | |
|---|---|---|---|
| | | take business risks | |
| Internal capabilities | Managerial capability, financial capability, innovation capability, and technology use | Financial management, product/process improvement, and use of knowledge and technology | (Abad-Segura et al., 2020; Cristache et al., 2025; Rachapaettayakom et al., 2020) |
| Business environment | Market conditions, competition, government support, and financing access | Access to markets, policy support, financing opportunities, and competitive pressure | (Keelson et al., 2024; Mateev, 2025; Songling et al., 2018) |
| Organizational resilience | Adaptability, risk management, and continuity maintenance | Ability to adapt, continue operating, and reorganize resources under disruption | (Cedergren & Hassel, 2024; Dickson, 2025; Kantabutra & Ketprapakorn, 2021) |
| MSME operational sustainability | Continuity, stability, endurance, future viability | Maintaining operations, stable cash flow, and sustaining long-term business viability | (Eelager et al., 2025; Grefalde, 2026; Macak, 2022) |

**Data Collection Procedure**

Data were collected through a field survey, using direct questionnaire distribution and, where necessary, mediated administration to facilitate access to respondents in geographically dispersed areas. The survey targeted traditional weaving MSME owners and managers who met the inclusion criteria. Participation was voluntary, and respondents were asked to provide answers based on their actual business experience.

The field-survey approach was appropriate because the study sought standardized data from a large number of MSME decision-makers across multiple districts and cities. This design allowed the systematic collection of comparable data on strategic behavior, internal resources, environmental constraints, resilience, and operational continuity. The final dataset comprised 331 usable responses.

To reduce common-method bias, the questionnaire was designed with clear instructions, straightforward item wording, and blockwise separation across constructs. Respondents were informed that there were no right or wrong answers and that all responses would be treated confidentially. These procedural remedies are consistent with recommended practice for minimizing socially desirable and consistency-driven responses in self-report surveys (Podsakoff et al., 2003).

**Data Analysis**

The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) because the study involved multiple latent constructs and mediation testing within a single model. The analysis followed the standard

two-step procedure: measurement model evaluation and structural model evaluation (Hair & Alamer, 2022; Henseler, 2021; Sarstedt et al., 2020).

The measurement model was assessed using outer loadings, Cronbach's alpha, composite reliability, average variance extracted (AVE), and HTMT. Indicators with weak loadings were removed when necessary to improve convergent validity and reliability. The structural model was then evaluated using path coefficients, $R^2$, $f^2$, $Q^2$, and bootstrapping to test the significance of both direct and indirect effects. Mediation was assessed by examining the indirect effects of entrepreneurial orientation, internal capabilities, and business environment on operational sustainability through organizational resilience.

**Table 3. PLS-SEM evaluation criteria**

| Model stage | Criterion | Threshold / Purpose |
|---|---|---|
| Measurement model | Outer loading | Preferably ≥ 0.708 |
| Measurement model | Cronbach's alpha | ≥ 0.70 |
| Measurement model | Composite reliability | 0.70–0.95 |
| Measurement model | AVE | ≥ 0.50 |
| Measurement model | HTMT | < 0.90 |
| Structural model | Path coefficients | Direction and strength of relationships |
| Structural model | Bootstrapping | Significance of direct and indirect effects |
| Structural model | $R^2$ | Explanatory power |
| Structural model | $f^2$ | Effect size |
| Structural model | $Q^2$ | Predictive relevance |

### Ethical and Quality Considerations

Participation in the survey was voluntary, and respondents were informed that their answers would be used only for research purposes. No personal identifiers were reported in the analysis, and the dataset was handled to protect respondent confidentiality. In addition, data screening was conducted prior to model estimation to identify missing values, inconsistent responses, and incomplete responses.

To improve analytical robustness, the study also considered potential issues related to non-response and response quality. Where possible, early and late responses may be compared to identify indications of non-response bias, and incomplete questionnaires should be excluded before final analysis. These steps are important in survey-based organizational research because the quality of structural model estimation depends on the quality and completeness of the underlying data (Dash & Paul, 2021; Johnson et al., 2020).

## RESULT AND DISCUSSION

### Measurement Model Assessment

Before testing the structural relationships, the measurement model was examined to ensure that the indicators adequately represented their intended constructs. This assessment focused on indicator reliability, internal consistency, convergent validity, discriminant validity, and collinearity. To provide a visual overview of the measurement structure generated in SmartPLS, Figure 3

presents the estimated model used in the outer-model assessment.

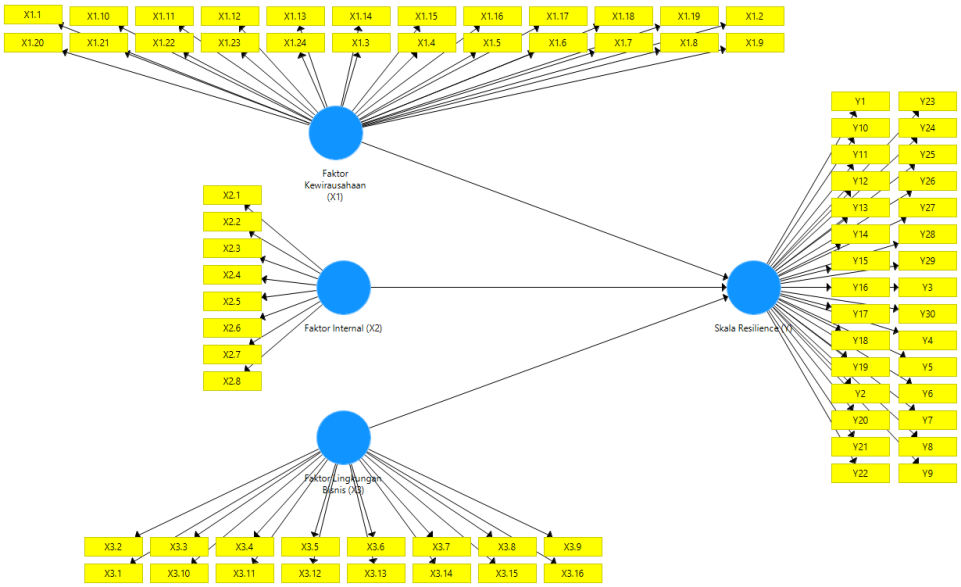


**Fig 3. SmartPLS Measurement Model Output**

As shown in Figure 3, the SmartPLS output indicates that most indicators loaded strongly on their respective constructs. The majority of the outer loadings exceeded the commonly recommended threshold of 0.70, indicating acceptable indicator reliability. A limited number of indicators showed weaker loadings during the initial estimation and were excluded to improve the quality of the final measurement model. After refinement, the retained indicators showed adequate convergence with their respective constructs.

Internal consistency reliability was assessed using Cronbach's alpha, rho_A, and composite reliability. As shown in Table 4, all constructs exceeded the recommended thresholds. The values of Cronbach's alpha ranged from 0.919 to 0.963, while composite reliability ranged from 0.934 to 0.966. These results indicate strong internal consistency across all constructs.

Convergent validity was evaluated using the average variance extracted (AVE). All AVE values exceeded the minimum criterion of 0.50, ranging from 0.547 to 0.804, indicating that each construct explained more than half of its indicators' variance. Taken together, these results show that the constructs were measured reliably and possessed adequate convergent validity.

**Table 4. Reliability and convergent validity results**

| Construct | Cronbach's Alpha | rho_A | Composite Reliability | AVE |
|---|---|---|---|---|
| Internal Capabilities | 0.919 | 0.922 | 0.934 | 0.638 |
| Business Environment | 0.958 | 0.959 | 0.962 | 0.613 |
| MSME Operational Sustainability | 0.919 | 0.92 | 0.943 | 0.804 |
| Entrepreneurial Orientation | 0.959 | 0.96 | 0.962 | 0.547 |
| Organizational Resilience | 0.963 | 0.965 | 0.966 | 0.587 |

Discriminant validity was then examined to ensure that each construct was empirically distinct from the others. The cross-loading pattern showed that each indicator loaded more strongly on its designated construct than on the remaining constructs. This indicates that the indicators did not display problematic overlap across constructs. In addition, the heterotrait-monotrait ratio (HTMT) values

remained below the recommended threshold of 0.90, supporting adequate discriminant validity.

Collinearity diagnostics also suggested no serious concern. Both indicator-level and construct-level VIF values remained below problematic levels, suggesting that multicollinearity was unlikely to distort the model estimates. Overall, the measurement-model results support the adequacy of the retained measurement specification and justify proceeding to structural-model assessment.

**Structural Model Assessment**

After the measurement model met the required standards, the structural model was assessed to examine the hypothesized relationships among entrepreneurial orientation, internal capabilities, business environment, organizational resilience, and MSME operational sustainability. This stage focused on the significance and strength of the structural paths, as well as the model's explanatory power, effect sizes, predictive relevance, and overall fit.

To visually support the structural-path interpretation, Figure 4 presents the SmartPLS bootstrapping output used to evaluate the significance of the direct paths in the model. Because the figure is visually dense, the statistical estimates are reported more clearly in tabular form immediately afterward.

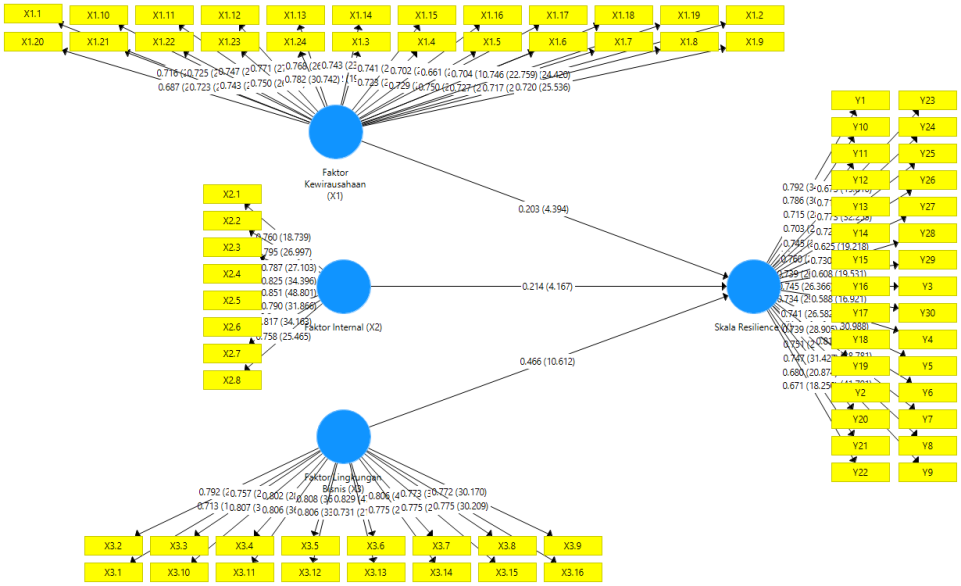


**Fig 4. Bootstrapping Results for the Structural Model**

The bootstrapping output confirms that the three antecedent constructs had significant positive effects on organizational resilience. Specifically, internal capabilities had a positive and significant effect ($\beta$=0.214, $t$=4.167, $p$<0.001), entrepreneurial orientation also had a positive and significant effect ($\beta$=0.203, $t$=4.394, $p$<0.001), and business environment showed the strongest positive effect on organizational resilience ($\beta$=0.466, $t$=10.612, $p$<0.001). Among these three relationships, the path from business environment to organizational resilience was the strongest, indicating that favorable external conditions contributed most substantially to the resilience capacity of weaving MSMEs.

In the full structural model, the relationships involving MSME operational sustainability showed a more differentiated pattern. Internal capabilities did not have a significant direct effect on MSME operational sustainability ($\beta$=0.030, $p$=0.544), and entrepreneurial orientation likewise did not ($\beta$=0.003, $p$=0.948). By contrast, the business environment had a significant positive direct effect on MSME operational sustainability ($\beta$=0.443, $p$<0.001), and organizational

resilience also had a significant positive direct effect on MSME operational sustainability ($\beta$=0.451, $p$<0.001). These findings indicate that not all antecedent factors translate directly into sustained business operations. Rather, some operate more strongly through resilience-building processes.

**Table 5. Direct structural effects**

| Path | Coefficient (β) | t-value | p-value | Interpretation |
|---|---|---|---|---|
| Internal Capabilities -> Organizational Resilience | 0.214 | 4.167 | p < 0.001 | Significant positive effect |
| Entrepreneurial orientation -> Organizational Resilience | 0.203 | 4.394 | p < 0.001 | Significant positive effect |
| Business Environment -> Organizational Resilience | 0.466 | 10.612 | p < 0.001 | Significant positive effect |
| Internal Capabilities -> MSME Operational Sustainability | 0.03 | — | 0.544 | Not significant |
| Entrepreneurial Orientation -> MSME Operational Sustainability | 0.003 | — | 0.948 | Not significant |
| Business Environment -> MSME Operational Sustainability | 0.443 | — | p < 0.001 | Significant positive effect |
| Organizational Resilience -> MSME Operational Sustainability | 0.451 | — | p < 0.001 | Significant positive effect |

Further evidence on the quality of the structural model is provided in Table 6, which summarizes the $R^2$, $f^2$, and $Q^2$ results. The $R^2$ value for MSME operational sustainability was 0.735, indicating that the model's predictors explained 73.5% of its variance. Meanwhile, the $R^2$ value for organizational resilience was 0.594, indicating moderate-to-substantial explanatory power. These values suggest that the model accounted for a substantial proportion of the variance in both endogenous constructs.

The effect-size results also provide useful insight into the relative contribution of each predictor. The strongest effects on MSME operational sustainability came from organizational resilience ($f^2$=0.312) and business environment ($f^2$=0.239), both of which fell within the moderate range. By contrast, the effects of internal capabilities ($f^2$=0.041) and entrepreneurial orientation ($f^2$=0.046) on organizational resilience were relatively small, although still meaningful. The direct effects of internal capabilities and entrepreneurial orientation on operational sustainability were negligible, which is consistent with their non-significant path coefficients.

Predictive relevance was then examined using $Q^2$. All $Q^2$ values were positive, indicating that the model was predictive of the endogenous constructs.

The highest predictive relevance was found for MSME operational sustainability ($Q^2$=0.655), followed by organizational resilience ($Q^2$=0.545). These values suggest that the model possessed satisfactory predictive capability.

**Table 6. Explanatory power, effect size, and predictive relevance**

| Criterion | Construct / Path | Value | Interpretation |
|---|---|---|---|
| $R^2$ | Organizational Resilience | 0.594 | Moderate explanatory power |
| $R^2$ | MSME Operational Sustainability | 0.735 | Strong explanatory power |
| $f^2$ | Internal Capabilities -> Organizational Resilience | 0.041 | Small |
| $f^2$ | Entrepreneurial orientation -> Organizational Resilience | 0.046 | Small |
| $f^2$ | Business Environment -> Organizational Resilience | 0.161 | Moderate |
| $f^2$ | Business Environment -> MSME Operational Sustainability | 0.239 | Moderate |
| $f^2$ | Organizational Resilience -> MSME Operational Sustainability | 0.312 | Moderate |
| $Q^2$ | Organizational Resilience | 0.545 | Positive predictive relevance |
| $Q^2$ | MSME Operational Sustainability | 0.655 | High predictive relevance |

As an additional diagnostic, model fit was examined using the available PLS-SEM fit indices. The SRMR value of 0.072 fell within the commonly accepted range, suggesting an acceptable approximate fit. However, NFI (0.628) and RMS theta (0.122) were less strong. Therefore, the model may be described as acceptable for variance-based structural analysis, but the fit should be interpreted cautiously and not overstated.

**Mediation Results**

Because the study was designed to examine organizational resilience as a mediating capability, the pattern of structural effects was interpreted in terms of mediation. The results indicate two distinct mediation configurations. First and foremost, both entrepreneurial orientation and internal capabilities significantly influenced organizational resilience, but neither showed a significant direct effect on MSME operational sustainability. This pattern is consistent with indirect-only mediation, suggesting that these two constructs contributed to operational sustainability primarily by strengthening organizational resilience rather than through a direct pathway.

Additionally, the business environment significantly influenced both organizational resilience and MSME operational sustainability. This means that its effect operated through two routes: a direct effect on sustainability and an indirect pathway through resilience. This pattern is consistent with partial mediation. Thus, the overall structural pattern supports the study's central proposition: organizational resilience serves as a key mediating capability that helps translate strategic posture, internal strengths, and environmental conditions into sustained business operations. In the context of traditional weaving MSMEs in NTT, resilience appears to be the mechanism through which

firms absorb pressures, adapt routines, and maintain continuity under uncertainty. Based on these results, the role of organizational resilience as a mediating mechanism can be summarized more clearly, as presented in table 7.

**Table 7. Mediation interpretation summary**

| Antecedent | Direct effect on MSME Operational Sustainability | Effect on Organizational Resilience | Mediation Pattern |
|---|---|---|---|
| Entrepreneurial Orientation | Not significant | Significant | Indirect-only mediation through organizational resilience |
| Internal Capabilities | Not significant | Significant | Indirect-only mediation through organizational resilience |
| Business Environment | Significant | Significant | Partial mediation through organizational resilience |

Overall, the results suggest that the sustainability of traditional weaving MSMEs cannot be explained solely by direct strategic or organizational effects. Instead, organizational resilience occupies a central role in linking entrepreneurial orientation, internal capabilities, and business environment to sustained operations. This finding reinforces the argument that resilience should be understood not only as a desirable organizational condition but as an active mechanism through which firms remain viable under changing and uncertain business conditions.

This study examined whether organizational resilience mediates the relationships among entrepreneurial orientation, internal capabilities, business environment, and MSME operational sustainability in the context of traditional weaving MSMEs in Nusa Tenggara Timur. Three findings stand out. First, entrepreneurial orientation and internal capabilities did not show significant direct effects on MSME operational sustainability, but both significantly strengthened organizational resilience. Second, the business environment exerted both a direct positive effect on operational sustainability and an indirect effect through organizational resilience. Third, organizational resilience emerged as a significant predictor of MSME operational sustainability and functioned as the central mechanism through which strategic and organizational resources were translated into sustained operations. Taken together, these results suggest that MSME sustainability in this setting is not driven solely by isolated firm attributes, but by the capacity to convert such attributes into adaptive continuity under environmental pressure.

The absence of significant direct effects from entrepreneurial orientation and internal capabilities on operational sustainability is theoretically important. Much of the MSME literature has tended to assume that entrepreneurial posture and internal strengths should directly enhance business continuity or performance, yet prior findings have already shown that these relationships are often contingent and uneven across contexts (Arabeche et al., 2022; Asmar et

al., 2025; Nurfauziah et al., 2025). The present results support that more cautious view. Entrepreneurial orientation may help firms sense opportunities, act proactively, and tolerate uncertainty, but such qualities do not automatically lead to operational sustainability unless they are embedded in organizational routines and adaptive responses (Cheng et al., 2025; Pusparini et al., 2024; Savvinopoulou & Mylonas, 2026). A similar logic applies to internal capabilities. Managerial, financial, and innovation-related capabilities are clearly valuable, but they may remain dormant or fragmented unless they are mobilized through resilience-building processes that help firms withstand disruption and maintain continuity (Olaleye et al., 2024; Sabahi & Parast, 2020; Zhang et al., 2025).

These findings strengthen the argument that organizational resilience should be treated not merely as a desirable outcome but as an active organizational mechanism. The significant path from organizational resilience to MSME operational sustainability aligns with resilience scholarship, which defines resilience as the capacity to anticipate threats, absorb shocks, adapt routines, and renew operations under changing conditions (Grego et al., 2024; Iborra et al., 2020; Ode et al., 2026). From a dynamic-capabilities perspective, the result is also theoretically coherent. Firms do not sustain operations simply because they possess resources or entrepreneurial intent. They sustain operations by reconfiguring resources in response to environmental volatility (Borah et al., 2025; Hermundsdottir & Aspelund, 2022; Panichakarn et al., 2024; Setyadi et al., 2025). In this sense, the present study extends prior MSME resilience research by empirically demonstrating that resilience links antecedent conditions to sustainability rather than existing solely as a descriptive organizational trait (Long et al., 2025; Pilav Velic et al., 2024).

The strongest structural influence in the model came from the business environment, both through its direct effect on operational sustainability and through its substantial impact on organizational resilience. This finding indicates that external conditions remain decisive for small firms operating in resource-constrained settings. MSMEs can be entrepreneurial and internally capable, but their sustainability still depends heavily on whether the surrounding environment provides workable access to markets, finance, institutional support, and operational stability. This interpretation aligns with broader ASEAN and Indonesian policy discussions, which have emphasized that MSME continuity increasingly depends on digital infrastructure, access to financing, regulatory coordination, trust-building mechanisms, logistics, and ecosystem support (Abdurrahman, 2025; Annamalah et al., 2025; ERIA et al., 2024). The result also fits the view that MSME sustainability is co-produced by firm-level capability and environment-level enablement, rather than by internal effort alone (Saptono et al., 2024; Zaman et al., 2025).

The Eastern Indonesian context helps explain why resilience plays such a central mediating role. Traditional weaving MSMEs operate under conditions that combine cultural embeddedness with structural constraints. These firms often rely on localized supply chains, small-scale production, household-based labor arrangements, and uneven access to finance, infrastructure, and broader markets. Under such conditions, even capable firms may struggle to convert entrepreneurial intent or internal competence into durable sustainability unless they have developed resilience as an operational capability. This helps explain why the direct effects of entrepreneurial orientation and internal capabilities were weak, while their resilience-building effects were significant. The result, therefore, adds context-sensitive evidence to the Indonesian MSME literature, which has often relied on more aggregated or more economically developed settings and has not always captured how regional conditions shape the pathway

from capability to continuity (Dayuni, 2024; Syafrida et al., 2025).

An important strength of the study lies in the triangulation of evidence across multiple analytical layers. The path coefficients showed a consistent pattern: entrepreneurial orientation and internal capabilities significantly predicted organizational resilience, while organizational resilience and the business environment significantly predicted MSME operational sustainability. This relational pattern was reinforced by the mediation structure, which distinguished indirect-only mediation for entrepreneurial orientation and internal capabilities from partial mediation for the business environment. The same general interpretation was supported by the structural-model diagnostics: the model showed substantial explanatory power for MSME operational sustainability, positive predictive relevance, and moderate effect sizes for business environment and organizational resilience. Although model-fit indicators in variance-based SEM should not be overstated, the combination of significant structural paths, meaningful $R^2$ values, positive $Q^2$ values, and theoretically coherent mediation patterns provides convergent support for the central argument of the study (Hair & Alamer, 2022; Henseler, 2021; Sarstedt et al., 2020). In that sense, the findings are not dependent on a single statistical criterion, but are supported by multiple, mutually reinforcing indicators.

Overall, the study provides a more process-oriented explanation of MSME sustainability under uncertainty. It shows that entrepreneurial orientation and internal capabilities remain important, but their contribution is largely indirect in this setting. Business environment matters both directly and indirectly, and organizational resilience serves as the mechanism that integrates these influences into sustained operations. This interpretation is broadly consistent with recent resilience and dynamic-capabilities scholarship, while also refining it through evidence from an underrepresented regional and sectoral context. The main implication is clear: for culturally embedded and structurally constrained MSMEs, sustainability is less a function of isolated strengths than of the ability to transform those strengths into resilient continuity under uncertain business conditions.

**Limitations and Implication**

This study has several limitations that should be considered when interpreting the findings. First, the research employed a cross-sectional survey design, which limits the ability to draw stronger causal conclusions or to capture how entrepreneurial orientation, internal capabilities, business environment, organizational resilience, and operational sustainability evolve. The structural relationships identified in this study are theoretically grounded and statistically supported, but they reflect one point in time rather than a dynamic process of adaptation. Second, the study relied on self-reported data from MSME owners and managers. Although procedural steps were taken to improve response quality and reduce common method bias, self-perception measures may still be affected by subjectivity, social desirability, and retrospective judgment. Third, the empirical setting was restricted to traditional weaving MSMEs in Nusa Tenggara Timur. This sectoral and regional focus strengthens contextual relevance, but it also limits broader generalization to other MSME sectors, more urbanized ecosystems, or regions with different institutional and market conditions.

A further limitation concerns the scope and measurement boundaries of the model. The study focused on five major latent constructs and treated organizational resilience as the primary mediating mechanism. However, MSME operational sustainability may also be shaped by other factors not included in the model, such as leadership style, network embeddedness, family-business

structure, digital maturity, export orientation, or participation in the innovation ecosystem. In addition, although PLS-SEM was appropriate for theory extension, prediction, and mediation testing in a relatively complex model, the fit indices should still be interpreted with caution, especially because variance-based SEM prioritizes prediction over exact covariance fit. Future studies could address these limitations by using longitudinal or panel designs, combining perceptual measures with objective firm-level indicators, expanding the model with additional contextual variables, and testing the framework across sectors and regions to examine whether the mediating role of organizational resilience remains stable under different institutional and competitive conditions.

The study also generates several important implications. From a theoretical perspective, the findings suggest that MSME sustainability should not be modeled only as a direct consequence of entrepreneurial orientation, internal capabilities, or environmental conditions. Instead, the results support a more process-based explanation in which organizational resilience acts as the adaptive mechanism that converts strategic posture and internal strengths into continued operations. This contributes to MSME and resilience research by clarifying that resilience is not merely an outcome or background condition, but a capability through which firms absorb shocks, reorganize routines, and sustain viability under uncertainty. The results, therefore, strengthen the integration of entrepreneurial orientation theory, dynamic capabilities logic, and resilience scholarship within a single explanatory framework for MSME operational sustainability.

From a practical and policy perspective, the findings imply that MSME support programs should move beyond generic entrepreneurship promotion and focus more directly on resilience-building capacity. For MSME owners and managers, this means strengthening adaptive planning, financial discipline, market responsiveness, knowledge use, and routine reconfiguration rather than relying only on entrepreneurial motivation or business experience. For policymakers and development agencies, the results indicate that sustainability can be improved not only by upgrading firm-level skills but also by strengthening the business environment, particularly access to finance, market connectivity, institutional support, digital infrastructure, and operational certainty. In the context of traditional weaving MSMEs in Eastern Indonesia, interventions are likely to be more effective when they combine internal capability development with ecosystem strengthening. In this sense, the study suggests that operational sustainability is best approached as a joint outcome of resilience-oriented firm development and supportive external conditions.

## CONCLUSION

This study concludes that MSME operational sustainability in the traditional weaving sector of Nusa Tenggara Timur is primarily shaped by organizational resilience rather than by the direct effects of all antecedent factors. Entrepreneurial orientation and internal capabilities did not, on their own, significantly improve operational sustainability, but both significantly strengthened organizational resilience, which, in turn, had a strong positive effect on sustainability. By contrast, the business environment influenced sustainability both directly and indirectly through resilience. These findings show that sustainability in this context is not driven simply by entrepreneurial posture or internal resources, but by the firm's ability to convert them into adaptive continuity under uncertain conditions.

The study also confirms that organizational resilience functions as the key mediating mechanism linking strategic posture, internal strengths, and

environmental conditions to sustained business operations. This extends the MSME literature by showing that resilience should be understood not merely as an outcome or a desirable trait, but as an active capability through which firms absorb shocks, adjust routines, and maintain operational continuity. In the case of traditional weaving MSMEs in Eastern Indonesia, sustainability depends on the interaction between what firms can do internally and what the surrounding business environment enables them to sustain externally.

Based on these findings, MSME owners and managers should prioritize resilience-building capabilities, including adaptive planning, financial discipline, market responsiveness, and operational flexibility. At the policy level, support programs should go beyond general entrepreneurship promotion and focus more directly on improving access to finance, market connectivity, digital infrastructure, logistics, and institutional support. For MSMEs in particular, the most effective strategy is likely to combine internal capability development with ecosystem strengthening, so that resilience becomes the practical pathway to long-term operational sustainability.

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