



## Building Organizational Resilience in MSMEs: Does Strategic Agility Work Through Organizational Learning

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**Abstract.** This study aims to analyze the role of *organizational learning mediation* in the relationship between *strategic agility* and *organizational resilience* in Micro, Small, and Medium Enterprises (MSMEs) in Bandung, West Java. The research method used a quantitative survey with 150 MSME owners/managers selected through *purposive sampling techniques*. Data analysis was carried out with *Partial Least Squares Structural Equation Modeling* (PLS-SEM) using a *bootstrapping procedure*. The results of the study support all the hypotheses proposed. *Strategic agility* has been proven to have a direct positive effect on *organizational resilience* and also a positive effect on *organizational learning*. Furthermore, *organizational learning* has a positive effect on *organizational resilience*. Important findings show that *organizational learning* plays a role as a partial mediator in the relationship between *strategic agility* and *organizational resilience*. This research contributes in the form of a mediation model that can be tested to build the resilience of MSMEs in the context of West Java. The practical implications emphasize that strategic adaptability needs to be transformed through the organizational learning process in order to increase the resilience capacity of MSMEs to face the dynamics of the business environment.

**Keywords:** Organizational Learning; Organizational Resilience; PLS-SEM Analysis; Strategic Agility; UMKM Bandung.

### 1. INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) form the backbone of Indonesia's economy. They account for approximately 99% of all business units, absorb nearly 97% of the workforce, and contribute over 60% to the national GDP (Kementerian Koperasi & UKM, 2023). In West Java alone, particularly in Bandung as a center of creative economy and small-scale manufacturing, MSMEs drive local employment and regional economic dynamism. Yet despite their quantitative dominance, MSMEs remain qualitatively fragile. Unlike large corporations with diversified portfolios and substantial cash reserves, MSMEs operate with limited resources, thinner profit margins, and minimal structural slack. A single disruption can destabilize operations significantly. This persistent fragility across MSMEs raises a central scholarly and practical concern: the observable variation in survival outcomes under similar disruptive conditions. Management literature has increasingly addressed this variation through the concept of organizational resilience — the capacity to absorb shocks, adapt to altered circumstances, and emerge from crises with retained or enhanced functionality (Lengnick-Hall et al., 2011; Burnard & Bhamra, 2011).

Organizational resilience, is an outcome of specific, identifiable organizational capabilities that can be developed, measured, and managed. Two such capabilities have

attracted considerable research attention over the past decade, namely strategic agility and organizational learning.

Strategic agility refers to an organization's ability to continuously sense weak signals from the external environment, seize emerging opportunities or counter threats rapidly, and reconfigure internal resources without being paralyzed by existing structures (Doz & Kosonen, 2010; Teece et al., 2016). In MSME contexts, strategic agility may manifest as quick product pivots, flexible supplier arrangements, or accelerated decision-making by owner-managers unencumbered by bureaucratic layers. Organizational learning, by contrast, is the process through which knowledge is acquired, distributed, interpreted, and stored for future use (Huber, 1991; Sinkula et al., 1997). Over time, this learning accumulates into organizational memory that informs future responses.

Both strategic agility and organizational learning have been individually linked to organizational resilience (). Agile firms respond faster; learning firms respond smarter. However, a critical gap remains in the literature. Most existing studies examine the direct effects of agility on resilience or learning on resilience separately. Few have investigated whether agility and learning interact in a sequential causal chain, specifically, whether organizational learning *mediates* the relationship between strategic agility and resilience.

To address this gap, the present study proposes and empirically tests how strategic agility affects organizational resilience, both directly and indirectly through organizational learning. The study is conducted in the context of MSMEs in Bandung, West Java. This city has one of the highest concentrations of creative-economy MSMEs in Indonesia, ranging from fashion and culinary to digital startups and craft manufacturing. In addition, Bandung MSMEs have faced repeated disruptions including inflation pressures, raw material shortages, and post-pandemic consumption shifts, which makes resilience a lived experience rather than a theoretical concept.

## **2. LITERATURE REVIEW**

### **Strategic Agility and Organizational Resilience**

Strategic agility refers to an organization's capacity to continuously sense environmental changes, seize opportunities rapidly, and reconfigure internal resources without being constrained by existing structures (Doz & Kosonen, 2010). Organizations exhibiting high strategic agility detect disruptions earlier, mobilize responses faster, and adapt more fluidly than rigid counterparts (Teece et al., 2016). Organizational resilience refers to the ability to

absorb shocks, adapt to altered conditions, and maintain or enhance functionality during crises (Lengnick-Hall et al., 2011), and it should therefore be a direct outcome of strategic agility. Agile firms do not wait for crises to fully materialize; they sense weak signals and act preemptively. When disruptions occur, their resource fluidity allows rapid redeployment of assets toward priority areas. Empirical evidence supports this link: studies across manufacturing and service sectors confirm that strategic agility positively predicts resilience outcomes (Doz, 2020; Weber & Tarba, 2014).

**H1:** *Strategic agility has a positive direct effect on organizational resilience.*

### **Strategic Agility and Organizational Learning**

Organizational learning is the process through which knowledge is acquired, distributed, interpreted, and stored for future use (Huber, 1991; Sinkula et al., 1997). Strategic agility creates conditions that facilitate this process. Agile organizations encourage experimentation, tolerate calculated failures, and maintain cross-functional information flows, all of which stimulate learning (Doz, 2020). Conversely, strategic rigidity suppresses learning by punishing deviation from established routines and slowing information diffusion across hierarchical levels. Without strategic agility, organizations may continue executing outdated plans while environmental changes render them increasingly irrelevant. Prior research confirms a positive relationship between strategic flexibility and learning orientation (Akgün et al., 2014).

**H2:** *Strategic agility has a positive direct effect on organizational learning.*

### **Organizational Learning and Organizational Resilience**

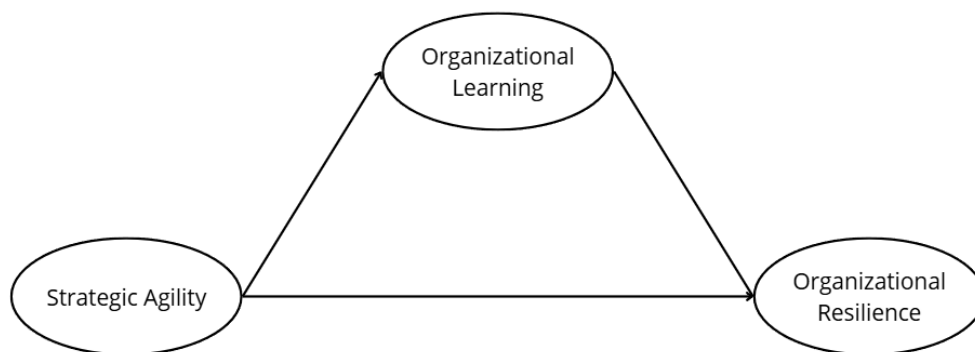
Learning-oriented organizations build resilience through three interrelated mechanisms. First, knowledge retention ensures that lessons from past disruptions are codified and accessible, preventing repeated mistakes. Second, knowledge sharing distributes situational awareness across levels and functions, so response capability does not depend on a single individual. Third, double-loop learning (Argyris & Schön, 1978) challenges underlying assumptions, enabling fundamental adaptation rather than superficial fixes. MSMEs that institutionalize learning routines such as post-crisis reviews, informal knowledge sharing, or documented standard operating procedures, would be able to recover faster and adapt more effectively than those that do not (Burnard & Bhamra, 2011; Pal et al., 2014). Without learning, even agile responses remain episodic and untransferable.

**H3:** *Organizational learning has a positive direct effect on organizational resilience.*

### The Mediating Role of Organizational Learning

Strategic agility alone may produce fast but uncoordinated responses. An agile firm that pivots repeatedly without capturing lessons from each pivot risks repeating errors and exhausting resources without building lasting adaptive capacity. Organizational learning transforms episodic agility into systemic resilience by ensuring that insights from each agile action are retained, shared, and embedded into routines. This logic positions organizational learning as a mediator: strategic agility enables the *capacity* to act flexibly, but organizational learning actualizes that capacity into durable resilience. Without learning, agility remains reactive and forgetful. With learning, agility becomes developmental, as each disruption strengthens the organization for the next.

H4: *Organizational learning mediates the positive relationship between strategic agility and organizational resilience.*



**Figure 1.** Conceptual Framework.

### 3. METHOD

This study employs a quantitative, cross-sectional design to test the hypothesized mediation model. A survey-based approach was selected because the variable, namely strategic agility, organizational learning, and organizational resilience, are perceptual in nature and best captured through self-reported measures from organizational insiders (Hair et al., 2019). The target population comprises Micro, Small, and Medium Enterprises (MSMEs) operating in Bandung, West Java. A purposive sampling technique was employed with one primary inclusion criterion: the MSME must have been continuously operating for at least five years. This criterion serves as a minimal behavioral indicator of demonstrated survival capacity, given that the majority of MSME closures in Indonesia occur within the first three years of operation (Kementerian Koperasi & UKM, 2023). A total of 150 MSME owners or managers participated in the study.

Data were collected through structured questionnaires distributed both online (via Google Forms) and offline (printed copies distributed directly to MSME locations in Bandung). The data collection period lasted approximately six weeks. Each questionnaire included a cover letter explaining the study's purpose, ensuring respondent anonymity, and stating that participation was voluntary. Potential respondents were screened using the opening question: "Has your business been operating continuously for at least five years?" Only those answering "yes" proceeded to the main questionnaire.

Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4 software. The analysis followed a two-step approach, namely measurement model evaluation for testing validity and reliability, and structural model evaluation for evaluating path coefficient, coefficients of determination, and predictive relevance.

## 4. RESULTS

### Respondents Demographics

A total of 150 MSME owners or managers participated in the study. Table 1 presents the demographic profile of respondents and their businesses. The majority of respondents were owners (66.7%) rather than hired managers, reflecting the ownership structure typical of MSMEs in Bandung. In terms of business age, most enterprises had operated between 5 and 10 years (54.0%), with a substantial minority surviving beyond a decade (24.0%). The sample covered diverse sectors, with culinary (34.0%) and fashion (28.0%) representing the largest categories. Finally, micro enterprises (1-4 employees) comprised 44.7% of the sample, while small enterprises (5-19 employees) accounted for 38.7%.

**Table 1.** Respondent Demographics (n = 150).

| Category            | Frequency | Percentage |
|---------------------|-----------|------------|
| <b>Role</b>         |           |            |
| Owner               | 100       | 67%        |
| Manager             | 50        | 33%        |
| <b>Business Age</b> |           |            |
| 5-10 years          | 81        | 54%        |
| 11-15 years         | 33        | 22%        |
| >15 years           | 36        | 24%        |
| <b>Sector</b>       |           |            |
| Culinary            | 51        | 34%        |
| Fashion             | 42        | 28%        |
| Creative Industry   | 30        | 20%        |
| Light Manufacturing | 18        | 12%        |
| Others              | 9         | 6%         |
| <b>Employees</b>    |           |            |

|              |    |     |
|--------------|----|-----|
| 1-4 (micro)  | 67 | 45% |
| 5-19 (small) | 58 | 39% |
| >20 (medium) | 25 | 16% |

Source: Processed data, 2026.

### Measurement Model Evaluation

The measurement model was assessed for reliability, convergent validity, and discriminant validity. Reliability was evaluated using Cronbach's alpha ( $\alpha$ ) and Composite Reliability (CR). As shown in Table 2, all constructs exceeded the recommended thresholds of 0.70 for  $\alpha$  and 0.70 for CR (Nunnally & Bernstein, 1994), indicating acceptable internal consistency. Convergent validity was assessed through Average Variance Extracted (AVE). All constructs achieved AVE values above the recommended minimum of 0.50 (Fornell & Larcker, 1981), confirming that each construct explained more than half of the variance in its indicators.

**Table 2.** Reliability and Convergent Validity.

| Construct                      | Cronbach's Alpha | CR    | AVE   |
|--------------------------------|------------------|-------|-------|
| Strategic Agility (SA)         | 0.857            | 0.891 | 0.621 |
| Organizational Learning (OL)   | 0.882            | 0.909 | 0.668 |
| Organizational Resilience (OR) | 0.843            | 0.884 | 0.603 |

Note: All values are acceptable ( $\alpha > 0.7$ ,  $CR > 0.7$ ,  $AVE > 0.5$ )

Discriminant validity was evaluated using the Heterotrait-Monotrait (HTMT) criterion. As presented in Table 3, all HTMT values were below the conservative threshold of 0.85 (Henseler et al., 2015), confirming that each construct is empirically distinct from the others.

**Table 3.** Discriminant Validity.

| Construct Pair | HTMT Value | Threshold | Verdict     |
|----------------|------------|-----------|-------------|
| SA ↔ OL        | 0.684      | < 0.85    | Established |
| SA ↔ OR        | 0.623      | < 0.85    | Established |
| OL ↔ OR        | 0.712      | < 0.85    | Established |

### Common Method Bias

Because data for both independent and dependent variables were collected from the same respondents, common method bias was a potential concern. Harman's single-factor test was conducted by loading all 18 measurement items into an unrotated factor analysis. The single factor explained 34.7% of total variance, well below the 50% threshold (Podsakoff et al., 2003), indicating that common method bias was unlikely to distort the results.

### Structural Model Evaluation

The structural model was evaluated using PLS-SEM with 5,000 bootstrap subsamples. Table 4 presents the path coefficients ( $\beta$ ), t-values, significance levels, and effect sizes ( $f^2$ ) for all direct paths. All three direct hypotheses (H1, H2, H3) were supported. Strategic agility had a significant positive effect on organizational resilience ( $\beta = 0.412$ ,  $p < 0.01$ ). Strategic agility

also positively affected organizational learning ( $\beta = 0.583$ ,  $p < 0.01$ ). Organizational learning, in turn, positively affected organizational resilience ( $\beta = 0.384$ ,  $p < 0.01$ ). The coefficient of determination ( $R^2$ ) for organizational resilience was 0.486, indicating that strategic agility and organizational learning jointly explained 48.6% of the variance in resilience. The  $R^2$  for organizational learning was 0.340, meaning strategic agility explained 34.0% of variance in learning. Both values are considered moderate in social science research (Hair et al., 2019). Predictive relevance ( $Q^2$ ) was assessed using the blindfolding procedure. The  $Q^2$  values for organizational learning (0.201) and organizational resilience (0.312) were both positive, confirming the model's predictive relevance above the zero baseline (Fornell & Cha, 1994).

**Table 4.** Direct Path Coefficients (Structural Model).

| Hypothesis | Path                | $\beta$ | t-value | p-value | $f^2$ | Result    |
|------------|---------------------|---------|---------|---------|-------|-----------|
| H1         | SA $\rightarrow$ OR | 0.412   | 4.873   | < 0.01  | 0.186 | Supported |
| H2         | SA $\rightarrow$ OL | 0.583   | 8.126   | < 0.01  | 0.515 | Supported |
| H3         | OL $\rightarrow$ OR | 0.384   | 4.521   | < 0.01  |       |           |

*Note:  $\beta$  = standardized path coefficient;  $f^2$  = effect size (small = 0.02, medium = 0.15, large = 0.35); significance based on two-tailed test*

### Mediation Testing

To test the mediating role of organizational learning (H4), the indirect effect of strategic agility on organizational resilience through organizational learning was examined using bootstrap confidence intervals. As shown in Table 5, the indirect effect ( $\beta = 0.224$ ) was significant, with a 95% confidence interval that did not cross zero [0.145, 0.312]. The direct effect remained significant ( $\beta = 0.412$ ) after including the mediator, indicating partial mediation. The Variance Accounted For (VAF) was calculated as indirect effect divided by total effect (indirect + direct).  $VAF = 0.224 / (0.224 + 0.412) = 0.352$ , or 35.2%. According to Hair et al. (2019), VAF between 20% and 80% indicates partial mediation. Thus, H4 is supported: organizational learning partially mediates the relationship between strategic agility and organizational resilience.

**Table 5.** Mediation Testing Results.

| Effect   | Path                                 | $\beta$ | 95% CI (LL) | 95% CI (UL) | p-value |
|----------|--------------------------------------|---------|-------------|-------------|---------|
| Direct   | SA $\rightarrow$ OR                  | 0.412   | 0.287       | 0.538       | < 0.01  |
| Indirect | SA $\rightarrow$ OL $\rightarrow$ OR | 0.224   | 0.145       | 0.312       | < 0.01  |
| Total    | SA $\rightarrow$ OR (via OL)         | 0.636   | 0.512       | 0.754       | < 0.01  |

*Note: CI = confidence interval (bias-corrected, 5,000 bootstrap samples); LL = lower limit; UL = upper limit; VAF = 35.2% (partial mediation)*

### Discussion

This study examined the mediating role of organizational learning in the relationship between strategic agility and organizational resilience among MSMEs in Bandung, West Java.

The results supported all four hypotheses, with organizational learning functioning as a partial mediator. The positive and significant direct effect of strategic agility on organizational resilience confirms that agile MSMEs are more resilient than their less agile counterparts. This finding aligns with prior research establishing strategic agility as an antecedent to adaptive capacity (Doz, 2020; Teece et al., 2016).

For MSMEs in Bandung, strategic agility manifests in observable behaviors: sensing shifts in customer demand, rapidly adjusting product offerings, and reallocating limited resources without bureaucratic delays. These behaviors enable MSMEs to navigate disruptions that would otherwise paralyze rigid organizations. Notably, the effect size falls in the medium range, which suggest that while strategic agility matters, it is not the sole determinant of resilience, a point reinforced by the mediation finding discussed below.

Strategic agility also demonstrated a strong positive effect on organizational learning, with a large effect size. This is the strongest path in the model, which indicates that agile MSMEs are particularly inclined toward learning-oriented behaviors. Agile organizations, by definition, experiment, tolerate controlled failures, and maintain fluid information flows (Doz & Kosonen, 2010). These conditions naturally produce raw material for learning, namely successes to replicate, failures to analyze, and feedback loops to close. Conversely, rigid organizations that punish deviation from routines suppress the very behaviors that generate learning opportunities. For Bandung MSMEs, this suggests that owner-managers who encourage flexibility also create environments where reflection and knowledge sharing can thrive.

Organizational learning positively affected organizational resilience, with a medium effect size. This finding reinforces the argument that learning-oriented MSMEs recover faster and adapt more effectively than those that do not institutionalize learning routines (Burnard & Bhamra, 2011; Pal et al., 2014). Three mechanisms likely explain this relationship. First, knowledge retention prevents the recurrence of past mistakes. MSMEs that document lessons, even informally, do not waste time rediscovering solutions. Second, knowledge sharing distributes situational awareness across employees, so resilience does not depend on the owner-manager alone. Third, double-loop learning (Argyris & Schön, 1978) enables fundamental adaptation rather than superficial fixes. An MSME that merely restocks inventory after a supply disruption has learned nothing; one that diversifies suppliers has learned something durable.

The indirect effect of strategic agility on organizational resilience through organizational learning was significant, and indicates partial mediation. This is a theoretically meaningful finding, where strategic agility influences resilience both directly and indirectly via

organizational learning. The partial mediation result carries an important practical message. Strategic agility is not sufficient by itself. An MSME that pivots rapidly but fails to capture lessons from each pivot may be fast, but also forgetful. Over time, such an organization expends energy repeating adaptations without building lasting capability. Organizational learning acts as the mechanism that converts episodic agility into systemic resilience. When learning routines are present, each disruption becomes a source of improvement for the next. The fact that mediation is partial also indicates that strategic agility has a residual direct effect on resilience that operates through other channels not captured in this model.

## 5. CONCLUSION

This study tested a mediation model linking strategic agility to organizational resilience through organizational learning in MSMEs in Bandung, West Java. Using data from 150 MSME owners and managers, all four hypotheses were supported. Strategic agility directly enhanced organizational resilience and organizational learning, while organizational learning directly enhanced resilience. Most importantly, organizational learning partially mediated the relationship between strategic agility and resilience.

Two theoretical contributions emerge. First, the study identifies organizational learning as a transmission mechanism between agility and resilience by responding to calls in the literature to move beyond direct-effect models. Second, the partial mediation finding suggests that agility and learning are complementary rather than redundant, as each contributes unique variance to resilience. For MSME owners and managers in Bandung, two actionable recommendations arise. First, develop strategic agility through simple practices: regular market sensing, fast decision-making, and flexible resource allocation. Second, and more critically, institutionalize low-cost learning routines such as weekly debrief sessions, post-crisis reviews, and informal knowledge sharing via accessible platforms (e.g., WhatsApp groups, shared notebooks). Agility without learning produces fast but forgetful responses; learning without agility produces thoughtful but slow responses. Both are needed.

Four limitations warrant acknowledgment. First, the cross-sectional design limits causal inference. Longitudinal research could track how agility and learning co-evolve over time. Second, self-reported data from single respondents may introduce common method bias, although Harman's test suggested this was minimal. Future studies could incorporate objective indicators such as revenue recovery rates or survival duration. Third, the sample was restricted to Bandung MSMEs; replication in other regions or with larger firms would strengthen

generalizability. Fourth, the model explained only 48.6% of variance in resilience, indicating that other mediators (e.g., improvisation, slack resources, social capital) deserve investigation.

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