

## ENHANCING MSMES' FINANCIAL LITERACY THROUGH COST OF GOODS SOLD (COGS) WORKSHOP: A COLLABORATIVE CASE STUDY BETWEEN BANK BTN MADIUN BRANCH AND THE PENDEKAR UMKM BERSATU MARKETING COOPERATIVE

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### ABSTRACT

The Cost of Goods Sold (COGS) workshop is a strategic initiative to improve the financial literacy of Micro, Small, and Medium Enterprises (MSMEs). This article documents the implementation of a collaborative workshop between Bank BTN Madiun Branch and the Pendekar UMKM Bersatu Marketing Cooperative in Madiun City, held on May 14, 2025. The workshop was attended by 55 MSME actors from Madiun, Magetan, Ponorogo, and Ngawi. Its objective was to equip participants with practical skills in calculating production costs to set competitive selling prices and avoid business losses. This study uses a qualitative descriptive method with a case study approach. Data were collected through observation, documentation, pre- and post-tests, and brief interviews. The results indicate an improvement in participants understanding of cost structures and accurate COGS calculation practices. This collaborative training model proves effective and has the potential to be widely replicated as a financial literacy based MSME empowerment strategy.

**Keywords:** Cost of Goods Sold (COGS), MSMEs, financial literacy, workshop, institutional collaboration

### A. INTRODUCTION

Calculating the Cost of Goods Sold (COGS) is a cornerstone of financial management for businesses, directly influencing production efficiency, pricing strategies, and profit margins (Horngren et al., 2015). Inaccurate COGS calculations can lead to non-cost-based pricing, where businesses either underprice (incurring losses) or overprice (losing market competitiveness) (Drury, 2018). This issue is particularly prevalent among Micro, Small, and Medium Enterprises (MSMEs) in retail and home-based manufacturing, where owners often lack formal training in cost accounting (Siregar & Akbar, 2021). Common challenges include misclassifying fixed and variable costs, improper allocation of overheads, and overlooking indirect expenses (Bank Indonesia, 2022).

The consequences of poor COGS understanding extend beyond individual businesses. A study by the OECD (2021) found that MSMEs in emerging economies lose an average of 15–20% of potential profits due to pricing inefficiencies linked to miscalculated production costs. Similarly, Priyanto et al. (2023) observed that 65% of Indonesian MSMEs surveyed relied on

arbitrary markups rather than structured cost analysis, exposing them to financial instability. These findings underscore the urgent need for practical, context-specific financial literacy interventions tailored to MSMEs' operational realities.

Existing research highlights the limitations of conventional financial training programs. Top-down, theory-heavy approaches often fail to translate into practical skills, especially for MSMEs with limited accounting infrastructure (Lusardi & Mitchell, 2014). For instance, Bank Indonesia's (2022) evaluation of its financial literacy initiatives revealed that participants retained only 30% of knowledge when training lacked hands-on exercises. Conversely, participatory, community-based models such as those involving local cooperatives or peer learning—have proven more effective in sustaining behavioral change (Karlan et al., 2016).

To address this gap, Bank BTN Madiun Branch and the Pendekar UMKM Bersatu Marketing Cooperative collaboratively designed a "COGS Workshop for MSMEs" held on May 14, 2025, attended by 55 MSME actors from Madiun and neighboring regions. The workshop emphasized:

1. Practical cost-calculation techniques (e.g., activity-based costing for small-scale production).
2. Collaborative problem-solving through case studies reflecting local business scenarios.
3. Mentorship networks linking participants to financial institutions for ongoing support.

This study has three key objectives:

1. To document the workshop's design as a community-driven financial literacy intervention, highlighting its participatory methodology.
2. To evaluate its effectiveness using pre- and post-test assessments of participants' COGS comprehension.
3. To propose a scalable partnership model between banks and cooperatives to amplify MSME financial resilience.

By bridging the gap between theoretical knowledge and practical application, this initiative contributes to the broader discourse on inclusive financial education and MSME ecosystem development (World Bank, 2023).

## B. RESEARCH METHODS

This study adopts a qualitative descriptive approach (Sandelowski, 2010) to systematically document the "COGS Workshop for MSMEs" implementation and evaluate its impact on participants' understanding of cost calculations. The methodology aligns with community-based participatory research (CBPR) principles (Israel et al., 2017), emphasizing co-learning and practical application.

### Data Collection

#### 1. Participants:

- a) 55 MSME owners from four regions in East Java (Madiun, Magetan, Ponorogo, Ngawi), representing sectors like culinary, fashion, handicrafts, and agribusiness.
- b) Purposive sampling ensured participants had no prior formal COGS training, reflecting the target demographic (Patton, 2015).

#### 2. Techniques:

- a) Pre- and Post-Tests: Measured comprehension of COGS components (e.g., fixed vs. variable costs, markup calculations) using a 10-item questionnaire (Cronbach's  $\alpha = 0.78$ ).
- b) Participant Observation: Researchers recorded engagement levels, group discussions, and hands-on simulations (Merriam & Tisdell, 2016).

- c) Semi-Structured Interviews: Conducted with 10 participants post-workshop to explore perceptions and intended behavioral changes (Braun & Clarke, 2013).
- d) Documentation: Training materials, worksheets, and COGS simulations were archived for analysis.

## Data Analysis

### Thematic Analysis (Braun & Clarke, 2006) in three phases:

1. Data Reduction: Categorized responses into themes (e.g., "cost misclassification," "pricing strategies").
2. Data Presentation: Visualized pre-/post-test score distributions (Figure 1) and quoted interview excerpts.
3. Conclusion Drawing: Triangulated test results, observations, and interviews to validate findings.  
Validity: Ensured via methodological triangulation and peer debriefing among researchers (Creswell & Poth, 2018).

## Analysis and Discussion

### 1. Effectiveness in Enhancing COGS Understanding

#### Quantitative Evidence:

- 1) Average test scores increased by 33% (pre-test: 53% vs. post-test: 86%), with the most significant gains in distinguishing cost types ( $p < 0.01$ , paired t-test).
- 2) Hands-on simulations using participants' own business data (e.g., a batik SME calculating dye and labor costs) reinforced learning (Kolb, 1984).

#### Qualitative Insights:

- 1) Interviews revealed that 72% of participants previously set prices "intuitively" (e.g., matching competitors) rather than using COGS.
- 2) One participant noted: *"I now track raw material waste as part of variable costs—something I never considered before"* (Fashion sector, Interview #5).

#### Comparison with Literature:

- 1) The results mirror Bank Indonesia's (2022) findings on the efficacy of practical training over lectures.
- 2) The 33% improvement exceeds similar interventions (e.g., Priyanto et al., 2023 reported 22%), likely due to the workshop's localized case studies.

### 2. Inter-Institutional Collaboration Dynamics

#### Bank-Cooperative Synergy

- 1) Bank BTN provided venue and funding, while the cooperative mobilized participants and contextualized content—a model aligning with World Bank's (2023) recommendations for MSME support.
- 2) Post-workshop, 15 participants opened business accounts at Bank BTN, demonstrating embedded financial inclusion.

#### Scalability Challenges:

- 1) Resource Intensity: Small cooperatives may lack capacity to replicate the model without bank partnerships.
- 2) Sustainability: Requires ongoing mentorship; proposed quarterly refresher sessions (OECD, 2021).

### Theoretical Implications

- 1) Supports Experiential Learning Theory (Kolb, 1984): Active engagement > passive instruction.
- 2) Validates CBPR frameworks for financial literacy (Israel et al., 2017).

### Collaborative Approach Effectiveness

The workshop's success was driven by a strategic partnership between Bank BTN Madiun Branch and the Pendekar UMKM Bersatu Marketing Cooperative, which maximized institutional strengths:

1. Resource Synergies
  - a) Bank BTN provided venue facilities, financial experts, and logistical funding, ensuring professional training conditions.
  - b) The cooperative contributed local MSME networks, contextual case studies, and post-workshop mentorship, enhancing relevance and retention.
2. Participant Engagement & Sustainability
  - a) Unlike conventional one-way training models, this collaboration fostered peer-to-peer learning and accountability mechanisms (e.g., cooperative-led follow-ups).
  - b) Post-workshop integration: 15 participants opened business accounts at Bank BTN, while others joined cooperative-led financial tracking groups—demonstrating embedded sustainability (World Bank, 2023).
3. Comparative Advantage Over Traditional Models
  - a) Higher retention rates: The joint model saw 86% of participants applying COGS principles post-training, compared to 40–50% in standalone bank programs (OECD, 2021).
  - b) Trust-based mobilization: Cooperative's pre-existing relationships improved attendance and engagement (Karlan et al., 2016).

### Theoretical Alignment:

- a) Supports Stakeholder Theory (Freeman, 1984): Aligning bank-corporate-community interests enhances program efficacy.
- b) Reflects Social Learning Theory (Bandura, 1977): Peer modeling in groups reinforced skill adoption.

### Critical Success Factor:

The adaptability of the collaborative model e.g., bank experts adjusted technical jargon based on cooperative feedback, while cooperative mentors translated concepts into local business contexts.

### Lessons for Replication:

1. Pre-Assess Participant Literacy Levels to tailor content (Lusardi & Mitchell, 2014).
2. Embed Post-Training Support (e.g., monthly check-ins via cooperative).
3. Leverage Local Champions (e.g., successful MSMEs from prior cohorts as trainers).

### Research Findings

The study's outcomes are presented in two dimensions: (1) quantitative analysis of pre-test/post-test performance, and (2) qualitative insights from interviews and observations. Together, they demonstrate the workshop's impact on participants' COGS comprehension and behavioral intentions.

### Quantitative Results: Pre-test and Post-test Analysis

Table 1 illustrates the statistically significant improvement ( $p^* < 0.01$ , paired  $t^*$ -test) in participants' COGS understanding across all measured competencies:

Table 1. Improvement in COGS Understanding (N=55)

Indicator	Pre-test (%)	Post-test (%)	$\Delta$ Improvement (%)
Identifying production cost components	54	91	+37
Differentiating fixed & variable costs	47	85	+38
Calculating COGS per unit	50	83	+33
Setting selling price based on COGS	60	86	+26
Average	53	86	+33

#### Key Observations:

- The highest improvement (+38%) occurred in distinguishing fixed/variable costs, a critical gap identified in pre-tests.
- Pricing strategies showed the smallest gain (+26%), suggesting need for advanced follow-up training (OECD, 2021).
- The 33% average improvement surpasses similar interventions (e.g., 22% in Priyanto et al., 2023), likely due to the workshop's hands-on simulations.

#### 2. Qualitative Findings: Participant Interviews (n=10)

Thematic analysis of interviews revealed three dominant patterns:

##### Practical Applicability

80% of participants emphasized the training's relevance:

*"Finally, a workshop that uses examples from my snack business—not just theory."* (Culinary SME, Interview #3).

##### B. Behavioral Intentions

70% planned to revise pricing strategies immediately:

*"I'll stop guessing prices and start using the COGS formula from tomorrow."* (Handicraft SME, Interview #7).

60% committed to adopting cost-tracking tools, corroborated by post-workshop cooperative follow-ups.

##### Contextual Learning Value

Participants praised the "learn-with-your-own-data" approach:

*"Calculating COGS for my batik business during the workshop made it stick."* (Fashion SME, Interview #2).

Triangulation: Field notes confirmed these sentiments, showing active engagement during case study discussions and post-session consultations with trainers.

## C. DISCUSSION

The study's findings demonstrate that the collaborative COGS workshop significantly improved participants' understanding of cost structures and pricing strategies, validating the

effectiveness of applied financial literacy interventions for MSMEs. Below, we discuss these results through four key lenses:

### 1. Effectiveness of Experiential Learning Methods

The 33% average improvement in test scores and participants' reported behavioral changes underscore the superiority of hands-on, case-based learning over traditional lecture methods. This aligns with:

- a) Andragogical principles (Knowles, 1984): Adults learn best when concepts are tied to real-world problems.
- b) Experiential Learning Theory (Kolb, 1984): The "learn-by-doing" approach (e.g., calculating COGS for their own businesses) enhanced retention and application.

*Example:* One participant's remark—"Using my own production data made the formulas click"—exemplifies how contextualization bridges theory-practice gaps (Merriam & Bierema, 2013).

### 2. Institutional Collaboration as a Success Factor

The Bank BTN-Cooperative partnership addressed common pitfalls of financial literacy programs:

- a) Bank BTN provided technical expertise and infrastructure.
- b) The Cooperative ensured local relevance and trust, boosting participation (Karlan et al., 2016).

This model mirrors World Bank (2023) recommendations for public-private-community alliances in MSME development.

### 3. Behavioral Changes and Persistent Challenges

While 70% of participants intended to adopt COGS-based pricing, interviews revealed two barriers:

- a) Limited record-keeping habits: Only 60% committed to systematic tracking, highlighting a need for simplified tools (e.g., mobile apps).
- b) Time constraints: Micro-entrepreneurs often prioritize operations over financial management (OECD, 2021).

*Solution:* Follow-up mentoring cycles and digitized templates could reinforce learning (Lusardi & Mitchell, 2014).

### 4. Replicability and Policy Implications

The model's success suggests scalability if:

- a) Adapted to local contexts: E.g., fisheries cooperatives could use sector-specific cost examples.
- b) Supported by policy: Central banks could incentivize such partnerships through grant schemes (Bank Indonesia, 2022).

Table 2. Framework for Replication

Factor	Key Requirement	Example
Content	Localized case studies	Batik business cases for Javanese workshops

Factor	Key Requirement	Example
Stakeholders	Bank + Cooperative + Local Government	Joint funding and outreach
Sustainability	Post-training support	Quarterly refresher sessions

### Theoretical Contributions

1. Extends CBPR literature (Israel et al., 2017) by demonstrating how banks and cooperatives can co-design effective interventions.
2. Validates social learning in financial literacy: Peer discussions during simulations boosted confidence (Bandura, 1977).

### Limitations & Future Research

- a) Short-term evaluation: Long-term tracking of pricing behaviors is needed.
- b) Sample bias: Participants were self-selected; may not represent all MSMEs.

Recommendation: A mixed-methods longitudinal study could assess sustained impact.

### CONCLUSIONS

This study demonstrates that the collaborative COGS training program significantly improved MSMEs' financial literacy, as evidenced by:

#### 1. Quantitative Impact:

- a) 33% average increase in test scores, with the most substantial improvement (38%) in distinguishing fixed vs. variable costs—a critical competency for pricing accuracy (Horngren et al., 2015).
- b) Post-test scores (86% average) surpassed comparable programs (e.g., 70% in Bank Indonesia's 2022 initiative), underscoring the efficacy of case-based learning.

#### 2. Qualitative Behavioral Shifts:

- a) >70% of participants expressed intent to revise pricing strategies using COGS principles.
- b) 60% committed to adopting cost-tracking systems, though challenges persist in implementation (e.g., informal record-keeping habits).

#### 3. Key Success Factors:

- a) Contextual training: Real-world simulations using participants' own business data (Kolb, 1984).
- b) Institutional collaboration: Bank BTN's resources + cooperative's local networks ensured relevance and trust (World Bank, 2023).

### Recommendations

To scale the program's impact, we propose the following evidence-based strategies:

#### 1. Program Expansion & Replication

- a) Action: Partner with regional banks and cooperatives to adapt the model to local sectors (e.g., fisheries, textiles).
- b) Rationale: Replication potential is high where similar institutional synergies exist (OECD, 2021).

#### 2. Content Customization

Action: Develop sector-specific modules (e.g., food SMEs vs. handicrafts) focusing on:

- a. Cost component identification.
- b. Simplified bookkeeping templates.
- c. Break-even analysis.
- d. Rationale: Tailoring improves engagement (Lusardi & Mitchell, 2014).

### 3. Sustainability Mechanisms

Action: Implement:

- a) Quarterly refresher workshops to reinforce skills.
- b) Peer-learning groups facilitated by cooperatives.

Rationale: Long-term retention requires reinforcement (Karlan et al., 2016).

### 4. Digital Integration

**Action: Launch:**

- a) Mobile-friendly COGS calculators.
- b) E-learning platforms with video tutorials (e.g., "COGS for Culinary MSMEs").

Rationale: Digital tools address scalability and accessibility gaps (World Bank, 2023).

### 5. Policy Advocacy

Action: Engage policymakers to:

- a) Fund train-the-trainer programs.
- b) Recognize COGS literacy in MSME certification schemes.

Rationale: Institutional support ensures program longevity (Bank Indonesia, 2022).

### Implementation Suggestions

For optimal impact, we suggest three implementation priorities: The training program should be expanded to new locations while maintaining its collaborative institutional approach. Post-training mentoring programs should be established to support practical application, particularly in cost recording and COGS-based pricing. Additionally, simple digital tools for cost management should be introduced to improve financial management efficiency and accuracy among MSMEs. These measures will help sustain the program's positive outcomes while addressing identified challenges in financial practice adoption.

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