

Bridging the literacy-performance gap: cognitive bias interaction and mentoring in MSMEs

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Abstract

This study examines how financial literacy, cognitive bias, and behavior-based mentoring affect the performance of micro, small, and medium enterprises (MSMEs) in post-disaster Sigi, Central Sulawesi. The aim was to assess the relationship between financial literacy, cognitive bias, financial behavior, and business performance, and to evaluate the role of mentoring as an intervention. Using a mixed method design: a quantitative survey of 291 MSME actors who received assistance, followed by in-depth qualitative interviews to enrich interpretation. The findings show that higher financial literacy promotes healthier financial practices and better business outcomes, while cognitive bias influences decisions in ways that can harm performance if left unmanaged. Financial behavior operates as a primary pathway that connects knowledge and bias to performance. Mentoring improves practical financial practices but does not do enough to change the underlying bias or reinforce the effects of literacy on behavior. Recommendations include redesigning mentoring to include behavioral-economic debiasing, training mentors as behavior coaches, and developing simple digital tools that drive data-driven decisions to sustain improvements in MSME financial management.

Keywords : financial literacy, cognitive bias, financial behavior, MSME performance.

Introduction

The 2018 earthquake and melting in Sigi, Central Sulawesi, severely disrupted local livelihoods and damaged infrastructure, leaving many micro, small, and medium enterprises (MSMEs) vulnerable to prolonged economic shocks. Recovery efforts have prioritized financial assistance and capacity-building programs, but persistent weaknesses in financial management and decision-making continue to limit business resilience and growth. Recent studies in developing countries show that while basic financial training improves knowledge, its translation into sustainable business performance depends on how knowledge changes daily financial practices and whether psychological factors, especially cognitive bias, are addressed (OECD, 2022; OJK, 2021). The behavioral finance framework shows that heuristics and biases (overconfidence, withholding, availability, loss avoidance) systematically distort the judgment of employers, often undermining the benefits of formal training unless the intervention actively targets the decision-making process (Gur et al., 2023; Kahneman, Daniel, Tversky, 1979; Khan et al., 2023).

Financial literacy plays an important role in shaping financial behavior. Higher levels of financial literacy lead to better financial management and better decision-making processes (Zuraidah & Nasution, 2022; Rahman et al., 2021; Anita Handayani et al., 2022). Research

conducted by LeBaron-Black et al. (2025) and Lep (2025) states that financial literacy encompasses various aspects, such as financial knowledge, skills, attitudes, and behaviors. This concept is considered not only as an end goal, but as a tool to achieve positive financial behavior and overall well-being. Empirical findings show that literacy levels vary across locations; some studies have found a direct positive effect of financial literacy on MSME performance, while others identify indirect effects mediated through financial behavior or inclusion (Dwijayanty, 2025; Widyastuti et al., 2025; Jose et al., 2023; Selvi & Kwuta, 2023).

In the context of MSMEs, literacy includes understanding simple bookkeeping, budgeting, debt management, savings, and financing instruments. Financial behavior refers to the actual actions of managing financial resources, such as recording transactions, preparing budgets, managing cash and investments, and utilizing protection products, all of which represent the application of financial knowledge in daily practice. MSME performance is measured through financial and non-financial indicators, including profitability, sales growth, operational efficiency, and the ability to maintain business sustainability

From the perspective of financial behavior, knowledge does not automatically lead to better economic outcomes. The influence of knowledge depends on how it is internalized and applied through actual behavior. Financial literacy provides a cognitive framework (capability) that allows MSME owners to recognize the benefits and risks of financial decisions, but changes in outcomes (such as performance) are only achieved when the knowledge is transformed into consistent managerial habits, i.e. disciplined financial behavior. Thus, financial behavior serves as a causal mechanism that translates literacy into operational practices that impact business performance (Dwijayanty, 2025; Widyastuti et al., 2025; Jose et al., 2023; Selvi & Kwuta, 2023). According to Pastor (2023), they stated that financial literacy is the dominant factor that affects the performance of MSMEs. The study found that financial literacy has a positive effect on the performance of MSMEs in Jakarta, both directly and through the mediation of access to financing, financial risk management, and competitive advantage. As a result, it is concluded that financial literacy has a direct impact on the performance of MSMEs, while financial behavior mediates the influence of financial literacy on the performance of MSMEs.

Cognitive bias is a common phenomenon in MSME decision-making. Different types of cognitive biases, including overconfidence, availability heuristic, anchoring, confirmation bias, illusion of control, loss aversion, and regret, have been identified and measured in the context of MSMEs in various developing countries (Koech, 2020; Hidayati et al., 2023; Makdissi et al., 2024; Scott, 2023; Amri & Iramani, 2018; Iram et al., 2023; Mulasi & Matthew, 2022). In general, this bias shows that the assumption of perfect rationality in classical economic theory is not fully applicable in the context of MSME decision-making.

The influence of cognitive bias on MSME performance often shows an inverse (negative) relationship; However, the impact can be more complex depending on the dominant type of bias. The influence of cognitive bias on MSME performance is complex and contextual. Most studies identify negative or detrimental impacts of cognitive bias, seeing it as a barrier that leads to irrational decision-making (Syarkani & Alghifari, 2022).

One of the important factors that affect the success or failure of MSMEs is the quality of decision-making by business owners or managers. Classical economic theory assumes that decision-makers act rationally to maximize utility. However, research in behavioral finance

has shown that economic and financial decisions are often influenced by cognitive and emotional biases, leading to deviations from rationality (Khan et al., 2023). Cognitive bias is a systematic pattern of deviations from norms or rationality in judgment, which can affect investment decisions, resource allocation, and business strategy.

In the context of MSMEs, where resources are limited and the margin of error is small, the impact of cognitive bias can be significant. MSME entrepreneurs often have to make critical decisions with incomplete information, under time pressure, and with limited formal financial knowledge. This condition creates an environment conducive to the emergence of various cognitive biases that can affect business performance (Makdissi et al., 2024).

The two basic theories underlying behavioral finance are Prospect Theory and Limited Rationality Theory. Prospect Theory, developed by Kahneman and Tversky (1979), explaining that individuals evaluate gains and losses differently, with a tendency to avoid losses more than seeking the same gains. The Theory of Limited Rationality, proposed by Simon (1972), acknowledging that human cognitive capacity is limited, causing individuals to use heuristics or 'mental shortcuts' in decision-making. As a result, it can be concluded that cognitive bias may have a positive or negative influence on business performance. The specific direction of these influences, both positive and negative, depends on the financial behavior of MSME entrepreneurs (Khan et al., 2023).

Measuring the performance of MSMEs often poses challenges because many MSMEs do not have a formal and standardized financial recording system. Therefore, many studies use perception measurement, where MSMEs owners or managers are asked to assess their business performance relative to competitors or set targets (Maswin, 2023; Rokhimah et al., 2024; Mařík, et al 2024; Ahinful et al., 2023). This study uses *Balanced Scorecard* (BSC) as a tool to measure the performance of MSMEs.

The Balanced Scorecard (BSC) approach has been widely adapted in the context of MSMEs to provide a comprehensive and multidimensional performance measurement system. This theory emphasizes that business success cannot be judged solely from a financial perspective; instead, it should involve linkages between other performance dimensions. In practice, many studies adopt four key BSC perspectives, finance, customers, internal business processes, and learning and growth, to capture a complete picture of MSME operational conditions

Previous research, such as that conducted by Mamabolo (2020), Yacob et al. (2021), and Rojas-Lema (2021) about Social Enterprises and Muraba, et al (2024) in the MSME business model, showing the effectiveness of the use of combined metrics of financial and non-financial aspects. The integration of various indicators, such as customer satisfaction, process efficiency, and employee development, has been shown to provide more accurate results compared to one-dimensional measurement. Findings from Muhammad (2024) and Bianchini et al. (2024) reinforcing this by showing that MSMEs that apply this combination of metrics simultaneously are able to record better performance.

Financial behavior emerged as the main mediating variable that linked financial literacy to MSME performance. Research conducted by Augustin et al. (2020) found that financial behavior mediates the relationship between financial literacy and company performance. The study emphasizes that financial knowledge must be translated into good financial management practices to produce an impact on performance. Research conducted by

Indriani & Ratnawati (2017) about the role of financial behavior as a mediator of the influence of financial literacy and financial attitudes on MSMEs investment decisions in Indonesia. The study found that financial behavior fully mediates the relationship between financial literacy and investment decisions, suggesting that financial literacy influences investment decisions only through changes in financial behavior.

From the perspective of management theory, MSMEs assistance is an external intervention that acts as a catalyst in strengthening the managerial capabilities of business actors. As a moderation variable, mentoring not only serves as a provider of information but also as a control mechanism that reduces the negative impact of cognitive limitations. In the framework of the Resource-Based View (RBV), mentoring is considered as access to intangible resources in the form of knowledge and strategic guidance that helps entrepreneurs optimize their financial resources. Theoretically, the presence of a competent mentor transforms how financial literacy is applied in business operations, allowing the potential of resources to be transformed into a sustainable competitive advantage (Scott, 2020; Goyal & Kumar, 2021; Barney et al., 2001; Lusardi & Mitchell, 2014b).

From a behavioral economy perspective, MSMEs assistance plays an important role as a de-biasing instrument. Cognitive biases such as overconfidence or loss avoidance often obscure the objectivity of business actors, especially in post-disaster areas characterized by high levels of uncertainty. Mentoring serves as a 'rational third party' that is able to provide an objective and data-driven perspective to neutralize these mental distortions. With intensive mentoring, the destructive influence of cognitive bias on performance can be suppressed, as mentors force venture actors to engage in more analytical reasoning through Dual Process Theory (System 2), rather than relying solely on intuition or emotion (System 1) (Yasmin & Ferdaous, 2023; Shaji & Selvam, 2023).

Although the evidence is growing, gaps remain. Some studies examined these dynamics in post-disaster rural settings where uncertainty and stress magnified reliance on intuitive decision-making, nor have many evaluations examined whether mentoring functions primarily as a capacity builder or also as an effective debiasing moderator that reinforces the pathway from literacy to behavior to performance. In addition, the assessment of existing programs often measures short-term administrative outcomes (e.g., bookkeeping adoption) but not the deeper cognitive and behavioral changes necessary for long-lasting performance improvements.

The study addressed this gap by investigating how financial literacy and cognitive bias affect MSMEs' financial behavior and business performance in post-disaster Sigi, and by evaluating whether behavior-informed mentoring strengthens the conversion of knowledge into practice. Drawing on Dual Process Theory and Resource-Based Views, the conceptual narrative frames financial literacy and cognitive bias as antecedents, financial behavior as mediating operational capabilities, and mentoring as interventions that can act as supporters and moderators of these relationships. The objectives of the study were: (1) to assess the direct effects of financial literacy and cognitive bias on financial behavior and business performance; (2) to examine whether financial behavior mediates the relationship between literacy/bias and performance; and (3) to evaluate the role of mentoring as an intervention that improves behavior and potentially moderates the above pathways. The novelty of this study lies in combining behavioral perspectives and capacity building in the

context of post-disaster rural MSMEs and in empirically examining the dual role of mentoring as practical support and behavioral debiasing agents, areas that were less explored in previous evaluations.

Method

The study used a mixed-methods explanatory design that integrates cross-sectional quantitative surveys with advanced qualitative interviews to clarify and deepen statistical findings. Quantitative data was collected from a purposive sample of MSMEs owners who participated in the mentoring program at Sigi. The survey instrument measures financial literacy, cognitive bias, financial behavior, company performance, and the perceived impact of mentoring. Data sources include key survey responses, program documentation from local agencies, and interviewees deliberately selected for in-depth interviews. Data collection combines interviewer-administered questionnaires for the quantitative component and semi-structured interviews for the qualitative component. The questionnaire uses a multi-item scale for each construct and uses a seven-point agreement scale for indicators of literacy, bias, behavior, performance, and mentoring impact. Interviews explore how participants apply financial knowledge in practice and how mentoring influences decision-making habits.

Quantitative analysis follows the evaluation of measurement and structural modeling. Measurement evaluation assesses the reliability of the indicator and the validity of the construct. Structural analysis tests direct relationships, mediation, and moderation using a variance-based structural equation approach. Mediation was tested by estimating the indirect effects of antecedent variables on performance through financial behavior. Moderation was tested by including the terms of interaction between mentoring impact and antecedent variables to assess whether mentoring changed the strength of antecedent effects on behavior. The model estimation reports the path coefficient and the confidence estimate. Qualitative data are transcribed and analyzed using thematic coding to interpret the mechanism and provide contextual explanations of the quantitative findings.

Variable measurements define the construct as follows. Financial literacy consists of knowledge of basic finance, business finance, digital finance, and application items. Cognitive bias combines dimensions such as overconfidence, retention, availability, confirmation, loss avoidance, and representation. Financial behavior includes planning, record-keeping, cash management, and investment/financing decisions. The company's performance combines financial and non-financial indicators including revenue trends, profitability, operational efficiency, market growth, and innovation. The impact of mentoring captures the perceived increase in literacy, behavior change, and business outcomes. Control variables include company age, sector, owner education, and monthly turnover.

Results and Discussion

Figure 1 illustrates a Goodness of Fit (GoF) value of 0.701, which exceeds the threshold of 0.36. This shows that the model has a high degree of conformity, meaning that it comprehensively describes data with strong construct validity ($AVE > 0.5$) and high explanatory power (large R^2). As a result, the model demonstrates high validity, reliability, and predictive relevance, confirming that it is feasible and representative in describing the

relationships between the study variables.

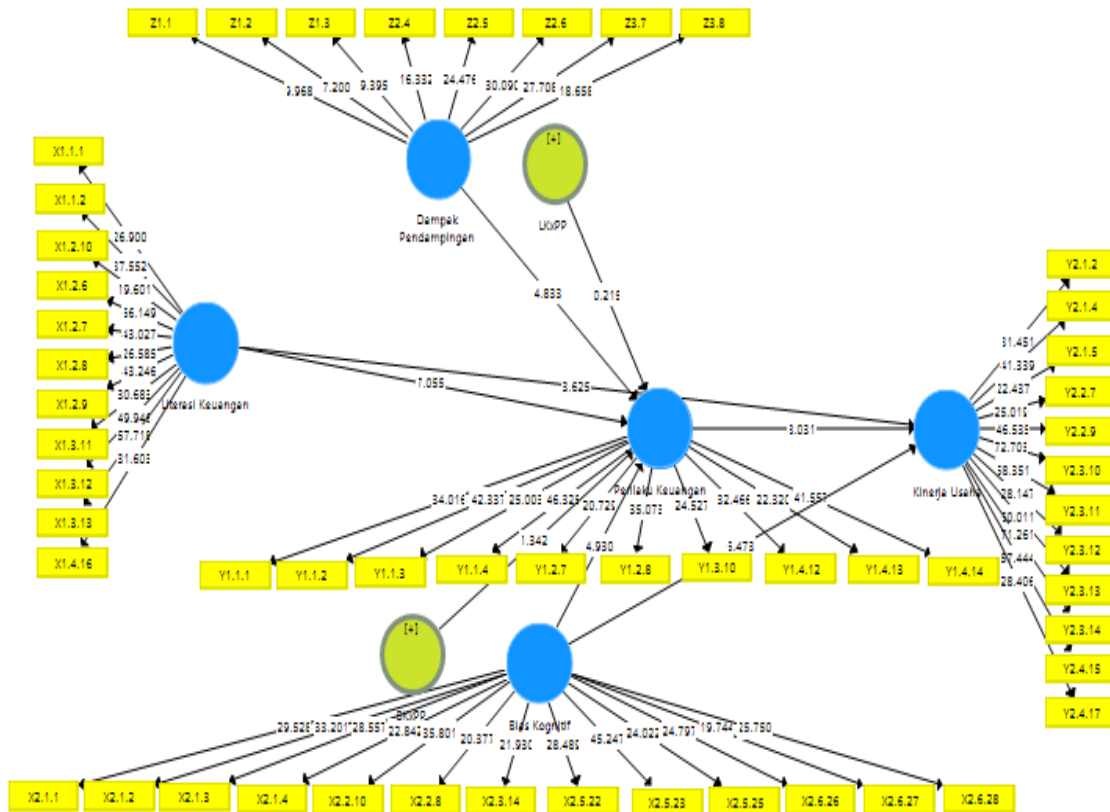


Figure 1. Compatibility Benefits (GOF)

Table 1 presents the results of the hypothesis testing, revealing several significant relationships. First, both financial literacy and cognitive bias demonstrate positive and significant direct effects on MSME performance. Specifically, a higher level of financial literacy leads to improved financial performance ($\beta = 0.202$, $t = 3.128$, $p = 0.002$), while higher levels of cognitive bias are also associated with higher financial performance ($\beta = 0.308$, $t = 6.760$, $p = 0.000$).

Furthermore, the analysis identifies financial behavior as a key mechanism. Financial literacy positively and significantly promotes healthy financial behavior ($\beta = 0.515$, $t = 6.756$, $p = 0.000$). Similarly, cognitive bias directly contributes to an individual's financial behavior in a positive and significant manner ($\beta = 0.304$, $t = 4.368$, $p = 0.000$). In turn, good financial behavior itself has a strong, positive, and significant influence on improving MSME financial performance ($\beta = 0.484$, $t = 8.443$, $p = 0.000$).

The study also examines the role of MSME mentoring. Mentoring programs are found to be effective, exerting a positive and significant direct influence on improving individual financial behavior ($\beta = 0.212$, $t = 4.590$, $p = 0.000$). However, when testing for moderating effects, the interactions are not supported. The impact of MSME assistance does not significantly strengthen the influence of financial literacy on financial behavior ($\beta = 0.002$, $t = 0.026$, $p = 0.979$), nor does it strengthen the relationship between cognitive bias and financial behavior ($\beta = -0.067$, $t = 1.046$, $p = 0.296$).

Table 1. Direct Effects Hypothesis Test Results

Description	Original sample (O)	Sample average (M)	Standard deviation (STDEV)	Statistics T (O/STDEV)	P value
Financial Literacy → MSMEs Performance	0.202	0.204	0.065	3.128	0.002
Financial Literacy → Financial Behavior	0.515	0.510	0.076	6.756	0.000
Cognitive Bias → MSMEs Performance	0.308	0.310	0.046	6.760	0.000
Cognitive Bias → Financial Behavior	0.304	0.310	0.070	4.368	0.000
Financial Behavior → Performance	0.484	0.480	0.057	8.443	0.000
MSMEs Mentoring → Financial Behavior	0.212	0.213	0.046	4.590	0.000
Mentoring MSMEs x Financial Literacy → Financial Behavior	0.002	0.006	0.060	0.026	0.979
Mentoring MSMEs x Cognitive Bias → Financial Behavior	-0.067	-0.073	0.064	1.046	0.296

Based on Table 2, the analysis reveals that financial behavior serves as a significant mediating mechanism in several key relationships within the model. First, financial behavior significantly mediates the influence of financial literacy on the financial performance of MSMEs ($\beta = 0.249$, $t = 5.721$, $p = 0.000$). This indicates that the effect of financial literacy on performance is not merely direct but operates primarily through its promotion of improved financial behavior.

Similarly, financial behavior significantly mediates the relationship between cognitive bias and MSME financial performance ($\beta = 0.147$, $t = 3.806$, $p = 0.000$). This implies that the impact of cognitive bias on performance is channeled through its effect on an individual's financial behavior. The model also identifies a significant mediating role for financial behavior in the effect of MSME mentoring. Specifically, mentoring positively influences financial behavior, which in turn leads to better financial performance ($\beta = 0.102$, $t = 4.101$, $p = 0.000$). Thus, the benefit of mentoring programs on performance is indirect, occurring through the enhancement of financial behavior.

However, the analysis of moderated mediation models shows that MSME mentoring does not alter these indirect pathways. The interaction between mentoring and financial literacy, mediated by financial behavior, is insignificant ($\beta = 0.001$, $t = 0.026$, $p = 0.979$). This means mentoring does not strengthen or weaken the mediating effect of financial literacy on performance via behavior. Likewise, the interaction between mentoring and cognitive bias, mediated by financial behavior, is also insignificant ($\beta = -0.033$, $t = 1.001$, $p = 0.317$), indicating that mentoring programs do not reinforce or attenuate the mediating role of financial behavior in the relationship between cognitive bias and performance.

Table 2. Indirect Influence Hypothesis Test Results

Description	Original sample (O)	Sample average (M)	Standard deviation (STDEV)	Statistics T (O/STDEV)	P value
Financial Literacy → Financial Behavior → MSMEs Performance	0.249	0.244	0.043	5.721	0.000
Cognitive Bias → Behavioral Performance → Finance of MSMEs	0.147	0.149	0.039	3.806	0.000
Mentoring MSMEs → MSMEs Financial Behavior → Performance	0.102	0.102	0.025	4.101	0.000
Mentoring MSMEs x Financial Literacy → Financial Behavior → Performance	0.001	0.004	0.029	0.026	0.979
MSMEs Mentoring x Cognitive Bias → Behavioral Finance → MSMEs Performance	-0.033	-0.036	0.032	1.001	0.317

The structural model explains most of the variance in the financial behavior and performance of the firm, demonstrating the substantive relationship between the construction and supporting the conceptual framing of the research. Empirically, financial literacy shows a strong positive relationship with financial behavior, suggesting that higher knowledge and skills translate into more disciplined planning, record-keeping, cash management, and investment decisions. These findings are in line with the resource-based argument that cognitive abilities become operational advantages when turned into routine and practice, and corroborate recent field studies showing that knowledge improves outcomes only when applied in everyday financial practice. Financial literacy also has a positive direct relationship with company performance, although it is less than its influence on behavior, highlighting that knowledge contributes to outcomes both directly and indirectly through enforced behaviors.

Cognitive bias exerts a positive and significant influence on measured behavior and performance in the model. The positive coefficient reflects that the bias heuristic is systematically associated with specific behavioral patterns and business outcomes in this post-disaster context rather than implying bias in general. Post-disaster extreme conditions result in high uncertainty, so cognitive bias transforms into "Adaptive Heuristics". Although usually considered irrational, bias plays an important role in conditions of uncertainty (such as the post-disaster in Sigi), cognitive bias serves as a mechanism for *fast-and-frugal heuristics*. The manifestations of cognitive bias of MSMEs in Sigi Regency based on the results of the interviews are as follows.

Table 3. Manifestations of Cognitive Bias

Type of Bias	Operational Definition	Behavioral Manifestations
Overconfidence	A tendency to overestimate abilities, knowledge, and the probability of future success.	MSME actors dare to reopen stores or increase stock of goods immediately after a disaster without formal market analysis, because they believe past experience is enough to survive.
Loss Aversion	A psychological tendency in which the pain of loss is felt twice as strong as the pleasure of an equivalent gain.	Reluctance to dispose of damaged assets or stop unprofitable product lines because they feel "sorry" for the capital that has gone out (<i>sunk cost</i>).
Herding Behavior	Behavior follows larger group actions in making financial decisions without personal analysis.	Following the type of business that is "trending" post-disaster (e.g., light construction services or basic necessities) just because they see a successful neighbor, without seeing the saturation of the market.
Optimism Bias	The belief that oneself has a lower risk of experiencing negative events than others.	Ignoring the importance of insurance or emergency reserve funds because they feel that major disasters will not happen again in the near future.

According to *Dual-Process Theory*, high pressure makes individuals tend to use System 1 (intuition) to avoid obstacles in decision-making (*paralysis analysis*). Bias *overconfidence*, for example, it is a catalyst for MSMEs actors to dare to take opportunities when the market is down, which actually triggers performance recovery. By concept *Ecological Rationality*, bias is not always bad; Its effectiveness depends on environmental conditions. In volatile situations, quick intuitive decisions often take the advantage of formal analysis due to data limitations (Prosad et al., 2015).

Financial behavior is the most important proxy determinant of a company's performance in the model. Effect measures show that disciplined and materially repeatable financial practices improve financial and non-financial outcomes, consistent with the theory that operational routines mediate the conversion of knowledge into competitive advantage. Mediation tests show that most of literacy's effects on performance operate through behavior, and that bias also impacts performance largely through its influence on behavior. This mediated pathway reinforces the theoretical view that interventions should target behavioral routines and decision-making processes, not just knowledge transfer.

Mentoring has a clear and positive direct effect on financial behavior, showing that existing mentoring programs have successfully changed administrative practices such as record-keeping and budgeting. However, mentoring did not significantly moderate the effects of literacy or bias on behavior. The effect of the interaction was small and statistically insignificant. This means that current mentoring primarily provides procedural support

rather than debiasing or deeper cognitive restructuring. The failure of mentoring in moderating the relationship between literacy and behavior confirms that current assistance programs in Sigi Regency may be stuck in a 'knowledge transfer paradigm' that assumes that automated information provision changes actions.

Based on the results of an interview with the Head of Cooperatives and MSMEs, Arifin H. Sukri, stated that the form of assistance for MSMEs through: first, assistance through assistants called Bachelor of Business Assistants. Second, assistance through incubation activities in collaboration with regional incubators. Third, entrepreneurship assistance. The mentoring activities are not carried out every day, but based on modules and timelines prepared by regional incubators.

Based on the results of interviews with MSME actors, the reason is explained: mentors usually teach technical tasks (bookkeeping, digital tools) and checklists, while debiasing techniques, reflective coaching, and behavioral instructions are limited or non-existent. Comparisons with recent implementation studies show that mentoring that explicitly includes behavior coaching, feedback loops, and choice architectures results in stronger debiasing and greater downstream performance gains than pure technical assistance; Therefore, these findings identify actionable shortcomings in program design.

The design of the mentoring program is within the framework of behavioral coaching, such as, psycho-economic mentoring: mentoring is not only in charge of teaching accounting, but also acts as a 'behavioral architect' that helps business actors build habits (*Habit Training*) through repetition and feedback direct (Syarkani & Alghifari, 2022).

The results of this study contribute novelty to three things. First, they documented the mediating role of financial behavior in a sample of post-disaster rural MSMEs, suggesting that knowledge generates impact primarily through habitual practices under high uncertainty. Second, they show that cognitive bias remains influential even after training and mentoring, highlighting that stress-amplified heuristics can shape business trajectories in ways that are not fully corrected by standard capacity development. Third, they provide program-relevant evidence that mentoring as currently delivered improves administrative practices but fails as an unbiased moderator; It identifies concrete gaps for redesigning support towards behavior coaching and decision architecture.

From a theoretical point of view, the findings integrate the perspectives of Dual and Resource-Based Processes: literacy supplies cognitive resources, behaviors operationalize them into powerful abilities, and bias interfere with cognition and praxis bias. In practical terms, the evidence implies that programs should combine technical finance training with explicit debiasing methods, mentoring skills, and simple decision tools (hints, checklists, risk reminders) to shift intuitive habits toward more analytical decision-making. Future evaluations should test enhanced mentoring packages with behavioral components and measure medium-term performance impacts to confirm whether debiasing strengthens the literacy conversion into sustainable corporate growth.

Conclusion

The study concludes that the improvement in MSME performance in Sigi post-disaster depends on the conversion of financial knowledge into disciplined financial practices, and that cognitive bias remains a persistent influence on decision-making unless specifically addressed. Behavior-based coaching that focuses on practical routines helps operationalize

knowledge, but mentoring should evolve to include behavioral coaching and debiasing techniques to transform intuitive habits toward more analytical decisions and result in more lasting performance improvements. The Sigi local government needs to design a mentoring program that moves beyond basic financial record-keeping teaching to include 'Behavior Coaching,' which assists employers in recognizing and managing their own cognitive biases.

Limitations include cross-sectional designs that limit causal claims and reliance on self-reported measures that may reflect social desire or memory bias. These samples are region-specific, so generalizations outside of similar post-disaster rural contexts should be cautious. Future research should implement and evaluate longitudinal or experimental mentoring interventions that integrate behavioral debiasing, use objective business performance metrics, and test which specific coaching components are most effective in translating literacy into sustainable corporate growth.

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