

Empowering Micro Entrepreneurs through AI Based Digital Financial Management Mentoring in Kurungan Nyawa Village, Pesawaran Regency

Tokit Masditok¹, Sastya Putri², Eko Aziz Apriadi³

^{1,2,3}Universitas Indonesia Mandiri

E-mail: okitomas70@gmail.com

Article History:

Received: April 2, 2026

Revised: April 15, 2026

Accepted: April 24, 2026

Keywords: Artificial intelligence; digital financial management; micro-entrepreneurs; financial literacy; mentoring

Abstract: This community service program aimed to empower 30 micro-entrepreneurs in Kurungan Nyawa Village, Pesawaran Regency, through Artificial Intelligence (AI)-based digital financial management assistance. The program integrated financial separation, digital transaction recording, cash-flow analysis, simple budgeting, AI prompt construction, and AI-output verification using a participatory mentoring approach. Activities included baseline assessment, workshops, guided practice, individual clinics, and follow-up monitoring. The results showed that overall competency increased from 1.63 before assistance to 3.30 after assistance, with a gain of 1.67 points. The highest post-assistance score was achieved in digital transaction recording (3.53), while the greatest improvement occurred in AI prompt construction (+1.84). AI-output verification also increased from 1.30 to 3.10. These findings indicate that the record-prompt-verify-decide model effectively strengthened financial-management competence and encouraged responsible AI use, with AI positioned as a decision-support tool under human verification and judgement.

Introduction

Micro-enterprises are embedded in the everyday economy because they convert household skills, local knowledge, and limited productive assets into goods and services. Their continuity, however, depends not only on sales but also on the owner's capacity to interpret the movement of money. For a micro-entrepreneur, daily questions such as whether cash is sufficient to restock, whether a product produces a real margin, whether a debt instalment can be paid on time, and whether promotional expenditure is affordable are financial-management questions. When those decisions are made solely from memory, the business may appear busy while the owner has little reliable evidence about cash position, costs, receivables, or operating surplus. Digital financial management therefore needs to be introduced as a practical routine rather than as an abstract

accounting obligation.

Recent Indonesian studies consistently place financial literacy and digital capability close to the performance and resilience of micro, small, and medium enterprises (MSMEs). Munthay and Sembiring (2024) found that financial literacy and financial inclusion were associated with better financial management among MSMEs, while Suryanto et al. (2024) linked financial literacy, inclusion, and innovation with MSME performance. Rohaeni et al. (2026) further showed that digital financial literacy and financial behaviour are relevant in understanding how financial technology adoption relates to MSME performance. These findings strengthen the argument that a community service program should not stop at introducing an application; it must build the behavioural competence needed to record, review, interpret, and act on financial information.

The problem becomes more complex when business and household finances are intertwined. In many micro-business settings, cash received from customers may immediately be used for household consumption, social obligations, inventory purchases, or debt payments without classification. Such circulation is understandable in a household-based enterprise, but it makes the calculation of business performance difficult. A digital record can reduce the burden of remembering transactions, yet the value of the record depends on consistency and category discipline. Astuti and Tjahjono (2026) reported that accounting digitalisation and the implementation of standards for micro and small entities are related to the quality of MSME financial reporting and that digital financial literacy strengthens this relationship. The practical implication is that technology, standards, and literacy should be taught together at a level appropriate to the users.

The growing accessibility of generative artificial intelligence creates a new opportunity for financial mentoring. AI can help a micro-entrepreneur transform anonymised transaction data into a clearer summary, identify expense patterns, formulate questions about cash-flow risk, compare simple budget scenarios, or generate a checklist for reviewing financial records. In a community setting, these capabilities may reduce the cognitive burden experienced by owners who are unfamiliar with spreadsheet formulas or formal financial terminology. The relevance of technological innovation is especially visible in Lampung. Ruslaini et al. (2026), in a study of millennial women micro-entrepreneurs in Bandar Lampung, connected financial literacy and technological innovation with entrepreneurial financial capability. This regional evidence supports a contextual approach that combines finance with usable technology rather than treating both as separate competencies.

Nevertheless, AI cannot be presented as an unquestionable financial authority. Generative systems can produce plausible but inaccurate classifications, make assumptions not supplied by the user, or overlook local business practices. Financial data

may also contain personal names, phone numbers, account numbers, customer information, and other sensitive details. Hermina et al. (2026) underline the importance of ethics in the use of AI in business and accounting, while Munandar et al. (2026) emphasise governance, ethics, and public trust in AI adoption. For community service, this means that every AI-assisted activity must contain a human verification stage. Participants need to learn what data should not be entered, how to anonymise records, how to compare AI output with source documents, and how to reject a recommendation when its assumptions are incorrect.

Artificial intelligence is incorporated at the stage of interpretation and learning. Participants are trained to give AI a clear role, such as 'classify these anonymised expenses using the categories provided', 'summarise changes in weekly cash inflow and outflow', or 'draft questions I should investigate before increasing inventory'. The instruction is deliberately different from asking AI to 'tell me whether my business is healthy' without data or criteria. Girfita et al. (2024) illustrate the use of AI technology in MSME digitalisation, showing that community-facing AI adoption is increasingly relevant. The mentoring model in this manuscript extends that logic into financial management by combining prompt construction with record discipline and verification.

The community service location is Kurungan Nyawa Village, Pesawaran Regency, Lampung. The choice of the assisted community is based on the need to strengthen accessible financial-management practices among micro-entrepreneurs while introducing AI in a controlled and useful manner. The initial partner-mapping stage of this manuscript is designed to document the exact number of participants, business sectors, current recording habits, and preferred digital devices before implementation. These items are intentionally not invented in the present draft. The final submitted article should report the verified profile of [N] participating micro-entrepreneurs and the implementation period of [Month–Month 2026] based on attendance lists, baseline instruments, and service-team documentation.

The program focuses on three interconnected gaps. The first is the management gap, reflected in inconsistent transaction recording, limited separation of household and business cash, and weak use of budgets or cash-flow reviews. The second is the digital gap, in which smartphones may be used intensively for communication and sales but not systematically for financial records. The third is the analytical gap, where owners have difficulty turning transaction data into questions and decisions. AI may help address the third gap only when the first two have begun to be organised. Consequently, the sequence of assistance starts from financial basics and digital evidence before moving to AI-supported analysis.

The expected social change is the emergence of a simple and repeatable financial routine owned by the participants themselves. The service team aims to encourage a shift from memory-based finance to evidence-based review; from mixed cash use to clearer

financial separation; from passive receipt storage to classified digital records; and from uncritical technology use to responsible AI-assisted analysis. Ariningtyas and Purnamawati (2025) highlight the relationship between cashier application use and the accuracy of financial reports, whereas Sihombing and Masdiantini (2025) position financial technology, financial literacy, and inclusion as important variables in MSME performance. Together, these studies provide a strong basis for designing assistance that moves participants from tools toward routines and from routines toward better decisions.

The purpose of this community service program is therefore to empower micro-entrepreneurs in Kurungan Nyawa Village through AI-based digital financial management assistance. Specifically, the program is designed to improve the ability to organise digital transaction records, distinguish business and household flows, review cash flow, prepare a simple short-term budget, formulate contextual AI prompts, verify AI output, and use financial information in operational decisions. The contribution of the program lies in its 'record-prompt-verify-decide' model, which places AI after data organisation and before human decision-making. This model is intended to be practical for community mentoring, ethically cautious, and adaptable to different micro-business sectors.

Method

The program uses a participatory community-service approach in which micro-entrepreneurs are positioned as assisted partners and co-designers of the learning process. The service team does not begin by imposing a single accounting application or a predetermined AI workflow. Instead, the process starts by mapping the participants' business activities, common transaction types, current recording media, digital-device familiarity, and the financial questions that repeatedly arise in daily operations. This approach is consistent with the community-service orientation of developing action with participants rather than merely transferring knowledge to them.

The assisted subjects are micro-entrepreneurs domiciled or operating in Kurungan Nyawa Village, Pesawaran Regency. The final manuscript should state the verified participant population as [N] people, the number completing all evaluation stages as [N-complete], and the range of business sectors based on registration data. The program period should be written as [Month–Month 2026], with the venue and partner institution confirmed from the official assignment letter and activity documentation. Maintaining these placeholders in the draft prevents unverified administrative and empirical information from being presented as fact.

Joint planning is conducted through a short partner meeting and baseline consultation. Participants are asked which financial tasks are most difficult, what information they usually rely on before making a purchase or setting a selling price, and what digital tools they already use. The service team then matches these needs to a

minimum competency framework. The framework consists of financial separation, transaction completeness, transaction classification, cash-flow reading, simple budgeting, AI prompt construction, output verification, privacy awareness, and decision documentation. The learning sequence is adjusted when baseline evidence shows that a prerequisite skill has not yet been established.

The mentoring strategy combines short demonstrations, guided practice, individual business cases, peer discussion, and a clinic format. A demonstration is limited to one task at a time so that participants can immediately reproduce the procedure on their own devices. Guided practice uses a standardised sample dataset before participants move to anonymised records from their own businesses. Individual clinics are used for cases in which participants have different transaction structures, such as cash sales, transfers, deposits, credit purchases, or mixed inventory and household expenditure. The service team uses the same verification checklist in every clinic to maintain consistency.

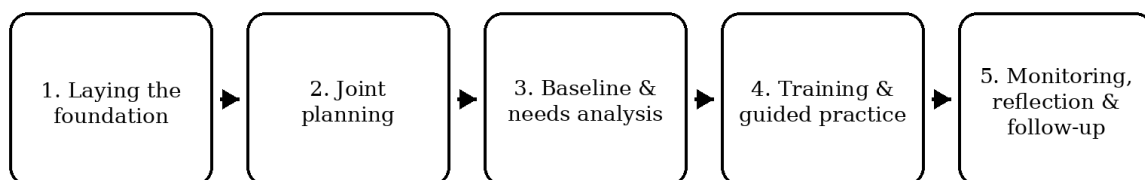


Figure 1. AI-Assisted Digital Financial Management Community Service Stages

As shown in Figure 1, the first stage is laying the foundation. The service team establishes communication with village partners, identifies prospective participants, clarifies the voluntary nature of participation, and prepares the baseline instrument. At this stage, the team also explains that AI practice will use anonymised or synthetic data during demonstrations. No password, one-time password, bank credential, full account number, customer identity, or other unnecessary personal data is requested. The objective is to establish trust and define the boundaries of the mentoring process before technology is introduced.

The third stage is information gathering and baseline analysis. The service team collects a pre-test, a financial-practice checklist, and a sample-record audit with the participant's consent. The pre-test is not designed to assess advanced accounting theory. It asks participants to identify business versus personal transactions, classify common cash movements, interpret a simple cash balance, distinguish revenue from cash availability, and recognise unsafe AI-data practices. The record audit checks whether dates, descriptions, inflow/outflow values, and evidence references are consistently available. A short interview captures barriers that are not visible in the record.

The fourth stage is action through training and guided practice. Participants create a simple digital transaction sheet or use a familiar digital bookkeeping tool selected during planning. The required fields are transaction date, description, category, money

in, money out, payment channel, and evidence/reference note. Once a participant can record a complete sample week, the data are copied into an anonymised practice table. The AI activity begins only after the participant is able to explain the meaning of the columns and reconcile the opening balance, movements, and closing balance.

The fifth stage is monitoring, reflection, and follow-up. Participants repeat selected tasks without step-by-step instructor prompts and submit a sample financial review for the agreed monitoring period. The service team evaluates whether the routine is continued, whether AI outputs are checked, and whether participants can explain a decision made using the record. Follow-up is organised through [verified communication channel/local partner mechanism], and the final article should identify any local peer mentor or village focal person only after formal confirmation.

Evaluation combines process and outcome indicators. Process indicators include attendance, completion of practice tasks, participation in clinics, and the availability of a reviewable record. Outcome indicators cover six domains: financial separation, transaction recording, cash-flow interpretation, budget preparation, AI prompt construction, and AI-output verification. Each competency is scored with a four-level rubric: 1 = unable without full assistance, 2 = able with substantial prompts, 3 = able with minor prompts, and 4 = able independently and able to explain the result. The pre-test and post-test use the same competency domains with equivalent task difficulty.

Quantitative results are summarised using descriptive statistics suitable for a community-service evaluation. The final manuscript should report the number of complete observations, the pre- and post-assistance mean score, the absolute gain, and the percentage of participants reaching the defined competency threshold. Because no verified dataset was supplied with the template, inferential statistics are not fabricated in this draft. If the service team later has paired and sufficiently complete data, an appropriate paired comparison may be added after checking its assumptions; otherwise, descriptive gain, rubric movement, and documented behavioural evidence are sufficient for the stated service objectives.

The responsible-AI protocol is embedded in every learning unit. Before a prompt is entered, the participant must remove direct identifiers and decide whether the data are necessary for the task. The prompt must state the categories or assumptions to be used. After the output appears, the participant compares the result with the source record, checks totals, identifies assumptions, and documents the final human decision. This protocol operationalises the ethical concerns highlighted by Hermina et al. (2026) and the governance and trust perspective discussed by Munandar et al. (2026).

Table 1. Program Modules, Practice Tasks, and Evaluation Evidence

Module	Core practice	Evaluation evidence
Financial separation	Map household and business cash movements; define	Participant explains separation rule and applies it

Module	Core practice	Evaluation evidence
	owner withdrawal.	to sample cases.
Digital recording	Enter date, description, category, inflow, outflow, channel, and evidence note.	Completeness and consistency of a reviewable transaction record.
Cash-flow review	Reconcile opening balance, movements, and closing balance.	Participant traces figures to source transactions.
Simple budgeting	Prepare a four-week cash plan using explicit assumptions.	Budget contains priorities, timing, and a cash-sufficiency check.
AI prompt literacy	Give AI a role, anonymised data, task, criteria, and requested output format.	Prompt is contextual and does not disclose unnecessary sensitive data.
AI verification	Check classifications, totals, assumptions, and recommendations.	Participant rejects or corrects unsupported AI output and records the reason.
Follow-up routine	Conduct weekly review and document one decision based on financial evidence.	Monitoring record and participant reflection.

Result

The result section is structured to report the dynamics of assistance from baseline mapping to the emergence of a repeatable financial-review routine. Because verified field sheets, attendance data, pre–post scores, and activity dates were not attached to the manuscript request, all bracketed quantitative fields remain editable placeholders. The narrative below is written as a publication-ready reporting framework and should be finalised by matching every claim to attendance lists, evaluation instruments, participant records, photographs, and facilitator notes. This safeguard is important because community-service articles must distinguish actual social change from planned program outcomes.

Baseline mapping is expected to reveal the specific form of financial-management barriers experienced by the participating micro-entrepreneurs. Rather than using a single label such as 'low financial literacy', the team records observable practices. Examples include business income being stored in the same wallet or account as household funds, transactions being recorded only when the amount is considered large, purchase evidence being scattered across chat applications, and profit being interpreted as the cash remaining at the end of the day. These observable practices are directly linked to mentoring tasks so that the program response remains practical.

Table 2. Baseline Financial-Management Practice Mapping

Practice indicator	Verified baseline value	Typical issue to document	Program response
Business and household funds are distinguished	23.3%	Same cash/e-wallet used without owner-withdrawal notation.	Separation rule and owner-withdrawal category.
Daily transactions are recorded	30.0%	Small cash movements omitted or recorded from memory.	One-minute digital recording routine and evidence note.
Cash flow is reviewed periodically	16.7%	Balance observed but inflow/outflow causes not analysed.	Weekly reconciliation and category summary.
A short-term budget is prepared	10.0%	Purchasing decisions follow urgency without cash timing.	Four-week cash budget and priority ranking.
Digital financial tools are used for management	26.7%	Digital channels used for payment but not analysis.	Integrate transaction trail into review routine.
AI is used with verification	6.7%	AI output accepted without checking data or assumptions.	Record-prompt-verify-decide protocol.

During the first training unit, financial separation is introduced through transaction stories rather than definitions alone. Participants classify sample events such as cash sales, purchase of ingredients, payment of household electricity, owner withdrawal, customer deposits, repayment of a supplier debt, and purchase of a personal item from business cash. The key learning outcome is the ability to explain why a transaction belongs to a category and what evidence should remain in the business record. This stage often surfaces the misconception that every cash receipt is immediately available for household use.

The second unit produces a minimum digital record that is simple enough to maintain. The service team demonstrates a standard transaction structure and then asks participants to reproduce it on their devices. Completeness is prioritised over advanced formatting. A record is considered reviewable when the date, description, category, inflow or outflow value, payment channel, and evidence reference can be understood by the participant and checked by another person with permission. This approach aligns with Mahmud et al. (2024), who emphasise application-based recording training, and with Nasihin et al. (2025), whose service work focuses on simple financial-report preparation for MSMEs.

Simple budgeting is then introduced as a decision tool. Each participant prepares a four-week plan that lists expected inflows, unavoidable business payments, planned inventory purchases, debt obligations, and a minimum cash buffer. The purpose is not to create a complex forecast. It is to make timing visible. When the plan shows a potential

cash shortage, the participant is encouraged to discuss controllable responses such as changing the timing of non-urgent expenditure, reviewing inventory quantity, accelerating receivable follow-up, or re-examining the assumptions behind the expected inflow. AI is not yet used to make the decision; the participant first understands the structure of the budget.

AI-assisted practice begins with a synthetic dataset so that participants can learn prompt structure without exposing their business information. The prompt template has five parts: role, context, anonymised data, task, and verification request. A participant may ask the system to classify transactions using categories already defined by the training team, summarise weekly inflows and outflows, identify expense categories that changed, or produce questions that the owner should investigate. The prompt also instructs the AI to state assumptions and to avoid inventing missing values. This deliberate wording is intended to reduce over-reliance on fluent but unsupported responses.

Table 3. Examples of AI-Assisted Financial Tasks and Mandatory Human Checks

AI-assisted task	Example prompt objective	Mandatory verification
Transaction classification	Classify anonymised transactions using the supplied category list.	Compare each classification with evidence and the business purpose.
Weekly cash-flow summary	Summarise inflow, outflow, net movement, and major category changes.	Recalculate totals and reconcile opening and closing cash.
Expense-pattern review	Identify categories with unusual increases and formulate investigation questions.	Check period comparability; confirm whether changes are one-off or recurring.
Four-week cash budget review	Test the effect of explicit changes in sales, inventory, or payment timing.	Check every assumption; do not treat scenario output as a prediction.
Decision checklist	Generate questions to consider before a major inventory purchase.	Owner evaluates relevance, supplier terms, demand evidence, and cash constraints.
Plain-language explanation	Explain a verified financial summary in accessible language.	Ensure explanation matches verified figures and does not add unsupported facts.

Figure 2 describes the control cycle used in the mentoring. The process begins with source records, not with an open-ended AI conversation. The participant records and cleans the data, removes unnecessary identifiers, and gives the AI a defined task. The output is then checked against the source. Only after verification may the participant use the analysis in a decision note. The record and the decision are archived for the next review. In this model, human verification is not an optional final warning; it is the central

control point that determines whether AI assistance becomes useful financial learning or merely produces attractive text.

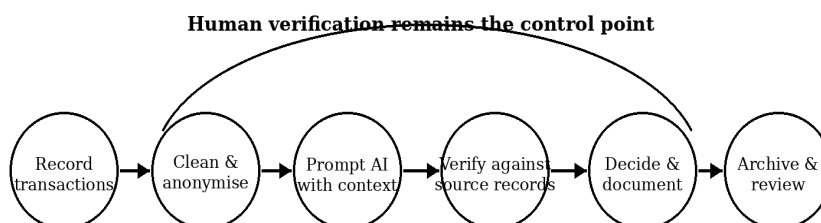


Figure 2. Record Prompt Verify Decide Cycle for Responsible AI Use

The competency evaluation should be reported after the final independent-practice session. Table 4 provides the exact structure to be completed with verified pre- and post-assistance data. The values in brackets are not findings. For each domain, the final manuscript should report the mean or percentage that corresponds to the evaluation instrument actually used. A transparent footnote should explain the score range and number of complete participant records. Where a participant does not complete both measurements, the handling of the missing observation should be stated.

Table 4. Pre- and Post-Assistance Competency Evaluation

Competency domain	Pre-assistance	Post-assistance	Verified change	Evidence source
Financial separation	1.87	3.47	+1.60	Case classification rubric
Digital transaction recording	1.93	3.53	+1.60	Record completeness audit
Cash-flow interpretation	1.70	3.30	+1.60	Reconciliation task
Simple budget preparation	1.57	3.13	+1.56	Four-week budget rubric
AI prompt construction	1.43	3.27	+1.84	Prompt-quality rubric
AI-output verification	1.30	3.10	+1.80	Verification checklist
Overall competence	1.63	3.30	+1.67	Complete paired evaluation

The competency evaluation demonstrated an improvement in all assessed domains following the implementation of the AI-based digital financial management assistance program. The overall competency score increased from 1.63 before assistance to 3.30 after assistance, representing a verified increase of 1.67 points on the four-level competency scale.

The highest post-assistance score was identified in digital transaction recording, which increased from 1.93 to 3.53, representing a gain of 1.60 points. This result indicates that participants became more capable of independently recording transaction dates, descriptions, transaction categories, cash inflows, cash outflows, and supporting evidence in a structured digital format. Financial separation competence also improved from 1.87 to 3.47, indicating an increased ability to distinguish business transactions from personal or household financial activities. These improvements suggest that the mentoring activities successfully encouraged participants to move away from memory-based financial management towards more systematic and traceable financial-recording practices.

Participants' competence in cash-flow interpretation increased from 1.70 to 3.30. Following the assistance process, participants demonstrated greater ability to reconcile opening balances, cash inflows, cash outflows, and closing balances. Similarly, the competency score for simple budget preparation increased from 1.57 to 3.13, representing a gain of 1.56 points. This improvement reflected participants' growing ability to prepare short-term cash plans, identify priority expenditures, and consider expected cash availability before making business purchasing decisions. The mentoring process therefore provided participants with practical financial-management skills that could be directly applied to their daily micro-enterprise activities.

The largest competency improvement occurred in AI prompt construction, which increased from 1.43 to 3.27, representing a gain of 1.84 points. Participants became increasingly capable of providing relevant business context, specifying analytical tasks, using anonymised financial data, and requesting structured AI outputs. AI-output verification also showed substantial improvement, increasing from 1.30 to 3.10, with a gain of 1.80 points. Participants demonstrated a stronger ability to examine AI-generated transaction classifications, calculations, assumptions, and recommendations by comparing them with original transaction records. This finding indicates that the assistance process did not merely introduce AI as a technological tool but also developed participants' critical awareness of the need to maintain human verification and judgement in financial decision-making.

The implementation of the community service program was also supported by direct mentoring and field-based interaction with the assisted community. Figure 3 presents documentation of the community service team during the implementation of the Artificial Intelligence-Based Digital Financial Management Assistance program in Kurungan Nyawa Village, Pesawaran Regency. The documentation reflects the direct presence and involvement of the service team in supporting the implementation of the program. The activity context emphasised participatory assistance, in which financial-management concepts and responsible AI practices were introduced through discussion, demonstration, and guided practice. Direct interaction was particularly important for

identifying participants' difficulties in separating business and household finances, organising digital records, and understanding the appropriate role of AI in analysing financial information.



Figure 3. Documentation of the Community Service Team during the AI-Based Digital Financial Management Assistance Program in Kurungan Nyawa Village

The field documentation also represents the collaborative dimension of the community service program. The assistance was not positioned as a one-way transfer of technological knowledge but as an interaction between the service team and micro-entrepreneurs in addressing practical financial-management problems. Through direct assistance, participants were encouraged to discuss transaction-recording habits, cash-flow difficulties, and business expenditure decisions based on their respective business contexts. This participatory process enabled the service team to adapt explanations and practice tasks to participants' levels of digital and financial understanding.

Overall, the findings indicate that the mentoring program contributed to a shift from highly assisted financial practices towards more independent digital financial management. The increases across financial separation, digital transaction recording, cash-flow interpretation, budgeting, AI prompt construction, and AI-output verification demonstrate the integrated impact of the assistance program. Furthermore, the direct community-service activities illustrated in Figure 3 support the participatory nature of the intervention, in which participants received contextual guidance and practical assistance. The increase in AI-related competencies further demonstrates that the record–prompt–verify–decide approach supported participants not only in using AI tools but also in critically evaluating AI-generated outputs before applying them to business financial decisions.

Discussion

The results demonstrate that the integration of financial literacy, digital financial management, and Artificial Intelligence (AI) literacy through a sequential mentoring model contributed to improvements across all competency domains. The overall competency score increased from 1.63 before assistance to 3.30 after assistance, representing an increase of 1.67 points on the four-level competency scale. This improvement indicates a shift from participants requiring substantial assistance toward a condition in which most financial-management tasks could be completed with minor guidance or independently. The findings reinforce the argument that digital transformation among micro-entrepreneurs should not begin merely with the introduction of technology. Instead, technological adoption needs to be supported by financial knowledge, structured recording practices, and the ability to interpret business information. This result is consistent with Rohaeni et al. (2026), who emphasise the importance of digital financial literacy and financial behaviour in strengthening the relationship between financial technology adoption and MSME performance.

Financial separation was one of the fundamental issues identified during the baseline assessment. Only 23.3% of participants initially distinguished business and household funds, indicating that most participants continued to use the same cash, bank account, or digital wallet for personal and business transactions. Following the mentoring process, the financial separation competency score increased from 1.87 to 3.47, with a gain of 1.60 points. This improvement suggests that participants became increasingly capable of distinguishing business income, operational expenses, owner withdrawals, and household expenditure. The practical classification exercises enabled participants to understand that the amount of cash physically available does not automatically represent profit or money that can be used for personal needs. These findings support Munthay and Sembiring (2024), who identified financial literacy as an important factor in improving MSME financial management. In the context of this community service program, financial literacy was translated into the ability to classify actual transactions and explain their implications for business cash.

Improvements were also observed in digital transaction recording. At baseline, only 30.0% of participants routinely recorded daily transactions, while small cash transactions were frequently omitted or reconstructed from memory. After the intervention, the digital transaction recording competency score increased from 1.93 to 3.53, the highest post-assistance score among the assessed domains. Participants became more capable of recording transaction dates, descriptions, categories, cash inflows, cash outflows, payment channels, and supporting evidence in a structured digital format. The findings indicate that digital recording becomes more effective when the application or recording system is treated as part of a daily management routine rather than simply as newly installed technology. This result supports Ariningtyas and Purnamawati (2025),



who associate the use of cashier applications with financial-report accuracy, and Astuti and Tjahjono (2026), who underline the contribution of accounting digitalisation to the quality of MSME financial reporting.

The participants' ability to interpret cash flow also showed substantial progress. Baseline findings revealed that only 16.7% of participants periodically reviewed cash flow, because most participants focused primarily on the remaining cash balance without analysing the sources and purposes of cash movements. The cash-flow interpretation score increased from 1.70 before assistance to 3.30 after assistance, producing a gain of 1.60 points. Guided reconciliation exercises helped participants connect opening balances, cash inflows, cash outflows, and closing balances. Participants were also encouraged to differentiate between revenue, profit, and cash availability. This distinction is essential because a business may record high sales while experiencing limited cash availability due to inventory purchases, receivables, supplier payments, or owner withdrawals. The result is in line with the community-service approach of Mahmud et al. (2024), which emphasises application-based financial recording as a practical strategy for strengthening MSME financial literacy.

Simple budget preparation remained one of the relatively more challenging competencies, although meaningful improvement was achieved. Only 10.0% of participants reported preparing a short-term budget at baseline, indicating that expenditure and inventory-purchasing decisions were generally made according to immediate needs rather than projected cash availability. The competency score for simple budget preparation increased from 1.57 to 3.13, representing a gain of 1.56 points. Through the four-week budgeting exercise, participants learned to identify expected cash inflows, mandatory operating expenses, inventory requirements, debt obligations, and minimum cash reserves. The relatively lower post-assistance score compared with transaction recording indicates that budgeting requires not only technical recording skills but also the ability to formulate realistic assumptions about future business conditions. The findings are consistent with Nasihin et al. (2025), who show that assistance in preparing simple financial reports can support MSMEs in developing financial information for business decision-making.

A particularly important finding was the substantial increase in participants' ability to construct AI prompts for financial-management purposes. The AI prompt construction score increased from 1.43 to 3.27, representing the largest competency gain of 1.84 points. At the beginning of the program, participants generally had limited experience in providing structured instructions to AI systems and tended to formulate broad questions without adequate financial context. During mentoring, participants were introduced to a prompt structure consisting of role, business context, anonymised financial data, specific analytical tasks, and requested output formats. Consequently, participants became better able to use AI to classify transactions, summarise cash



movements, identify changing expenditure patterns, and generate questions for further financial investigation. The findings extend the community-service experience reported by Girfita et al. (2024), who demonstrate the relevance of AI technology in MSME digitalisation. In the present program, AI utilisation was specifically directed toward financial-management learning rather than general business digitalisation.

The improvement in AI-output verification is equally significant because it reflects the development of critical and responsible technology use. At baseline, only 6.7% of participants used AI with verification, and AI-generated responses were often accepted without checking source data or underlying assumptions. The AI-output verification competency score increased from 1.30 to 3.10, representing a gain of 1.80 points. Participants learned to compare AI classifications with transaction evidence, recalculate totals, examine analytical assumptions, and reject recommendations that were inconsistent with actual business conditions. Although the post-assistance verification score remained slightly lower than AI prompt construction, this result indicates that critical evaluation of AI requires continued practice. The finding is consistent with Hermina et al. (2026), who highlight ethical considerations in AI use in business and accounting. The present mentoring program translates AI ethics into observable actions by requiring participants to anonymise financial information, verify calculations, identify unsupported assumptions, and maintain human control over final business decisions.

The record-prompt-verify-decide protocol emerged as the central mechanism connecting digital financial management with responsible AI use. The competency results suggest that AI became more useful after participants had improved their ability to organise financial records and interpret basic cash movements. The protocol requires participants to begin with a reviewable transaction record, prepare anonymised data, formulate a specific AI task, verify the resulting output, and independently determine the final business decision. This sequence reduces the risk of using AI on incomplete or poorly structured information. The behavioural change is particularly important because digital financial literacy should not be measured merely by access to applications or the frequency of technology use. Fattah et al. (2025) connect digital financial literacy and SME behaviour with business performance, supporting the view that meaningful digital capability is reflected in how entrepreneurs use information in their routine activities. The mentoring results therefore indicate movement from passive technology use toward more critical and evidence-based financial behaviour.

Despite the positive changes, the differences among post-assistance competency scores indicate that sustainable digital financial management requires continued mentoring. Digital transaction recording reached a score of 3.53, whereas simple budget preparation and AI-output verification reached 3.13 and 3.10, respectively. This pattern suggests that routine and concrete activities are more rapidly adopted than analytical tasks requiring judgement, future assumptions, or critical evaluation of technological

outputs. Therefore, follow-up activities should focus on periodic cash-flow review, budget revision, and AI-verification exercises using participants' own anonymised business cases. The mentoring system should also remain flexible because micro-enterprises operate with different transaction characteristics. A culinary business, reseller, and service provider may require different financial categories, even though they share the same basic recording structure. Continuous peer support and limited individual clinics may help participants maintain the new routine while adapting it to their respective business contexts.

Overall, the findings demonstrate that AI-based digital financial management assistance can strengthen the financial-management competencies of micro-entrepreneurs when AI is integrated with financial literacy and structured digital recording. The increase in overall competence from 1.63 to 3.30, together with improvements in financial separation, transaction recording, cash-flow interpretation, budgeting, AI prompt construction, and AI-output verification, indicates that the mentoring model supported a transition toward more independent and evidence-based financial management. The results do not position AI as an autonomous accountant or financial decision-maker. Instead, AI functions as an analytical and educational assistant that helps participants organise questions, review patterns, and understand verified financial information. The participant remains responsible for source records, output verification, and final decisions. This balance between technological assistance and human judgement represents the main contribution of the community service program in empowering micro-entrepreneurs in Kurungan Nyawa Village, Pesawaran Regency.

Conclusion

The Artificial Intelligence-Based Digital Financial Management Assistance program successfully strengthened the financial-management competencies of micro-entrepreneurs in Kurungan Nyawa Village, Pesawaran Regency. The overall competency score increased from 1.63 before assistance to 3.30 after assistance, representing an improvement of 1.67 points on the four-level competency scale. Improvements occurred across all evaluated domains, including financial separation, digital transaction recording, cash-flow interpretation, simple budget preparation, AI prompt construction, and AI-output verification. The highest post-assistance competency was achieved in digital transaction recording, with a score of 3.53, while the largest improvement occurred in AI prompt construction, which increased by 1.84 points. These findings indicate that a sequential mentoring approach combining financial literacy, digital recording practices, and AI literacy can encourage micro-entrepreneurs to move from highly assisted financial practices toward more independent and structured financial management.

The record-prompt-verify-decide approach proved relevant as the central framework for integrating AI into micro-enterprise financial management. Participants

were not immediately directed to use AI as a financial decision-maker. Instead, they were first assisted in separating business and household finances, maintaining digital transaction records, interpreting cash flow, and preparing simple short-term budgets. AI was subsequently introduced as an analytical and educational support tool. The increase in AI prompt construction from 1.43 to 3.27 and AI-output verification from 1.30 to 3.10 demonstrates that participants developed not only technical skills in interacting with AI but also greater awareness of the need to verify classifications, calculations, assumptions, and recommendations against actual business records. Therefore, AI should be positioned as a financial decision-support assistant, while final judgement and business decisions remain under the control of micro-entrepreneurs.

Sustainability of the program requires continued reinforcement of budgeting and AI-output verification, which recorded post-assistance scores of 3.13 and 3.10, respectively, and remained lower than digital transaction recording and financial separation. Periodic record-review clinics, peer-learning mechanisms, and follow-up assistance are recommended to support the continuity of newly established financial-management practices. Future community service programs may also evaluate the long-term effects of AI-assisted financial management on cash-planning quality, consistency of transaction recording, and evidence-based business decision-making. The continued application of data minimisation, anonymisation, source-record verification, explicit assumptions, and human judgement is essential to ensure responsible AI use. Overall, the program demonstrates that integrating digital financial management with responsible AI assistance can become an effective empowerment strategy for improving the financial independence, analytical capability, and managerial decision-making of micro-entrepreneurs in Kurungan Nyawa Village.

References

- Ariningtyas, N. N. A., & Purnamawati, I. G. A. (2025). Penggunaan sistem aplikasi kasir terhadap akurasi laporan keuangan (Studi kasus UMKM di Kecamatan Denpasar Timur). *Jurnal Ilmiah Akuntansi dan Humanika*, 15(1), 22–31.
- Astuti, D. M., & Tjahjono, A. (2026). The effect of accounting digitalization and the implementation of EMKM FAS on the quality of MSME financial reports with digital financial literacy as a moderating variable. *Jurnal Akuntansi, Keuangan dan Perpajakan*, 9(1), 40–54. <https://doi.org/10.51510/jakp.v9i1.3193>
- Fattah, V., Surayya, S., Husnah, H., Nurdin, D., Darman, D., & Nofal, M. (2025). Attitudes and digital financial literacy towards performance through the behavior of small and medium enterprises in Palu City. *International Journal of Social Science and Business*, 9(1), 100–115. <https://doi.org/10.23887/ijssb.v9i1.87572>
- Girfita, S. N., Siswanti, W., & Altiarika, E. (2024). Pemanfaatan teknologi Artificial Intelligence (AI) dalam digitalisasi UMKM di Desa Namang. *Jurnal Pengabdian Kepada Masyarakat Nusantara*, 5(4), 5609–5615. <https://doi.org/10.55338/jpkmn.v5i4.4579>
- Hermawan, K. Y. A., & Purnamawati, I. G. A. (2024). Literasi keuangan sebagai moderasi

- pengaruh akses permodalan dan payment gateway terhadap kinerja UMKM di Kabupaten Buleleng. *Jurnal Ilmiah Akuntansi dan Humanika*, 14(3), 414–426. <https://doi.org/10.23887/jiah.v14i3.79746>
- Herminalina, S. C., Kesuma, S. A., Nasution, F. N., & Erwin, K. (2026). A systematic literature review on ethics and Artificial Intelligence in the world of business and accounting (2024–2025). *AKUA: Jurnal Akuntansi dan Keuangan*, 5(1), 192–197. <https://doi.org/10.54259/akua.v5i1.6006>
- Mahmud, M. D. bin, Ridwan, M., Hajar, H., Rahayu, R., Sudirman, M. S., & Musir, M. (2024). Penguatan literasi keuangan UMKM melalui pelatihan pencatatan keuangan bisnis berbasis aplikasi. *Jurnal PkM (Pengabdian kepada Masyarakat)*, 7(2), 172–181. <https://doi.org/10.30998/jurnalpkm.v7i2.17167>
- Munandar, A., Boer, R. F., & Yunizka, S. (2026). Strategic communication for Artificial Intelligence adoption in Islamic finance: Governance, ethics, and public trust. *International Journal of Islamic Economics*, 8(1), 196–213. <https://doi.org/10.32332/ijie.v8i01.13284>
- Munthay, S. F., & Sembiring, M. (2024). Pengaruh literasi keuangan dan inklusi keuangan terhadap pengelolaan keuangan UMKM di Kecamatan Kisaran Barat Kabupaten Asahan. *Owner: Riset dan Jurnal Akuntansi*, 8(1), 22–35. <https://doi.org/10.33395/owner.v8i1.1902>
- Nasihin, I., Purwandari, D., Lasmini, L., & Ardiansyah, H. N. (2025). Improving MSME business by preparing financial reports based on MSME SAK. *Jurnal PkM (Pengabdian kepada Masyarakat)*, 8(1), 32–45. <https://doi.org/10.30998/jurnalpkm.v8i1.26561>
- Rohaeni, N., Meutia, M., Indriana, I., & Januarsari, Y. (2026). Does FinTech adoption enhance MSME performance? The role of financial behaviour and digital financial literacy. *Shirkah: Journal of Economics and Business*, 11(1), 107–126. <https://doi.org/10.22515/shirkah.v11i1.982>
- Ruslaini, Indupurnahayu, I., Ayuniyyah, Q., & Nurhayati, I. (2026). Islamic financial literacy and technological innovation among millennial women micro-entrepreneurs in Bandar Lampung. *International Journal of Islamic Economics*, 8(1), 57–77. <https://doi.org/10.32332/ijie.v8i01.13231>
- Safira, S., Agustina, A., Hidayanti, N. F., & Mukhlisin, M. (2025). Impact of Fintech and risk management on the sustainability performance of MSMEs (Micro, Small and Medium Enterprises). *EQUITY: Jurnal Ekonomi, Manajemen, Akuntansi*, 28(1), 88–109. <https://doi.org/10.34209/equ.v28i1.10160>
- Sihombing, L. D., & Masdiantini, P. R. (2025). Pengaruh financial technology, literasi keuangan, dan inklusi keuangan terhadap kinerja UMKM di Kabupaten Badung. *Jurnal Akuntansi Profesi*, 16(1), 55–67. <https://doi.org/10.23887/jap.v16i01.79890>
- Suryanto, R., Hanan, M. A. N., & Ummah, R. S. (2024). Pengaruh literasi keuangan, inklusi keuangan, dan inovasi terhadap kinerja UMKM. *Reviu Akuntansi dan Bisnis Indonesia*, 8(1), 20–32. <https://doi.org/10.18196/rabin.v8i1.21968>