
Strengthening Financial Resilience and Cybersecurity Awareness Among Indonesian Migrant Workers in Hong Kong: A Digital Financial Literacy Community Service Program

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Abstract

Indonesian Migrant Workers (PMI) increasingly use digital financial services for remittances, savings, payments, and family financial management. However, access to digital services is not always accompanied by adequate financial literacy and cybersecurity awareness. This community service program aimed to strengthen PMI's practical capacity in personal financial management, debt control, simple investment screening, digital financial recording, and protection from cyber risks. The activity was conducted online via Zoom Meeting on 21 October 2025, with 90 PMI participants in Hong Kong. The method combined interactive counseling, case simulation, application demonstration, guided practice, discussion, and pre-test–post-test evaluation. The results show improvement across all measured indicators: understanding of personal financial management increased from 48 percent to 82 percent, debt and simple investment literacy from 42 percent to 79 percent, ability to recognize digital fraud from 39 percent to 76 percent, ability to use digital financial applications from 35 percent to 71 percent, and awareness of personal data security from 44 percent to 85 percent. The program indicates that integrated financial and digital literacy education can support migrant workers' financial resilience and safer participation in the digital economy.

INTRODUCTION

The acceleration of Indonesia's digital economy has changed how citizens earn, save, transfer, and protect money (Dudhat & Agarwal, 2023; Hasan, 2024; Jannah et al., 2025; Meilinda et al., 2023; Prasidya & Dewi, 2023; Prihandini, 2025; Wibisono & Subiyantoro, 2025). Digital financial services are no longer peripheral instruments; they are embedded in daily transactions through mobile banking, electronic wallets, online marketplaces, and cross-border remittance channels (Chang & Benson, 2023; Dudu-Eniola, 2023; Marimo et al., 2025; Metzger et al., 2023). DataReportal reported that Indonesia had 212 million internet users in early 2025, equal to 74.6 percent of the population, indicating that digital access has become a mainstream infrastructure for economic participation (Kemp, 2025). At the same time, the national financial literacy agenda remains a strategic policy concern. The National Survey on Financial Literacy and Inclusion reported a financial literacy index of 66.46 percent and a financial inclusion index of 80.51 percent in 2025, showing progress but also revealing a persistent gap between access to financial products and the capacity to use them safely and productively (OJK and BPS, 2025).

This gap becomes more critical for Indonesian Migrant Workers, hereafter referred to as PMI, because they manage income across borders while maintaining financial obligations in Indonesia. PMI commonly deal with remittance decisions, family consumption needs, savings targets, education expenses, debt repayment, and future business planning (bin Mohamad et al., 2025; Umami, 2022). Their economic role is therefore not limited to individual livelihood; it also affects household welfare, local economic circulation, and community resilience in their places of origin (Li et al., 2022; Lu et al., 2022; Ma et al., 2024; Sun et al., 2025; Tang et al., 2023; Zada et al., 2022). However, the ability to transform migrant income into long-term financial security depends on practical financial capability, including budgeting discipline, debt control, savings allocation, investment awareness, and the ability to distinguish productive expenditure from consumptive pressure.

The digital dimension adds another layer of vulnerability. Digital remittance channels, mobile applications, social media, and instant messaging platforms offer convenience, but they also expose users to phishing, account takeover, fraudulent links, fake investment schemes, social engineering, and personal data misuse. For migrant workers, these risks are amplified by distance from formal advisory services, limited time for structured learning, high reliance on smartphones, and frequent communication through online platforms. A simple mistake, such as clicking an unverified link or sharing a one-time password, may create financial loss that is difficult to recover. Therefore, financial education for PMI should not be separated from digital safety and cybersecurity awareness.

Previous studies have highlighted the financial vulnerabilities of migrant workers and the need for targeted interventions. For instance, Riani et al. (2024) conducted a comprehensive workshop for former PMI covering financial, ethical, psychological, and digital management, showing positive outcomes but focusing only on returned migrants and lacking cybersecurity components. Nugroho et al. (2025) provided financial literacy and investment training for PMI in Malaysia, achieving a 64.8% improvement in financial knowledge, yet they did not address digital security. Prajanti et al. (2024) delivered digital-based financial literacy training for PMI in Hong Kong, reporting a 32% increase in financial literacy and a 41% improvement in digital application skills; however, they narrowly defined digital literacy as the ability to use applications rather than active protection against cyber risks. The International Labour Organization (2025) developed micro-courses on digital, cybersecurity, and financial skills for migrant workers in Indonesia and Thailand, training 52 trainers and 140 workers, but the program used a general training model without specifically targeting PMI in Hong Kong, nor did it fully integrate the three modules into a single coherent package. Commercial initiatives such as BNI's "Digital Ambassador" program (BNI, 2025) aimed to promote banking products and investments among PMI, but these were product-driven rather than capacity-building for holistic resilience. Prathama et al. (2025) conducted an online seminar on financial literacy and savings planning for PMI in Hong Kong, raising awareness of personal financial management, but the focus remained narrowly on savings without covering digital financial tools or cybersecurity. Similarly, Widiatningrum et al. (2025) organized a workshop for over 20 PMI in Hong Kong on safe digital financial applications, personal budgeting, and digital fraud risks, achieving improved awareness but with limited scale and duration.

Previous community service initiatives on financial literacy have generally emphasized bookkeeping, savings behavior, or entrepreneurship preparation. These themes are valuable,

yet many programs still treat digital literacy as a supporting topic rather than as a core component of financial resilience. In the context of PMI, this separation is no longer adequate. Financial management is increasingly mediated by digital platforms, and financial decisions are often made in digital environments where fraud, misinformation, and impulsive consumption may occur. The novelty of this program lies in its integrated approach: personal financial counseling, simple financial planning, digital financial application training, and cybersecurity education were delivered as one coherent learning package for PMI in Hong Kong.

The community partner in this program consisted of Indonesian Migrant Workers residing and working in Hong Kong. The participants were mainly domestic workers and workers employed by legal entities. Preliminary communication with the partner community indicated several concrete problems: many participants had no regular household cash-flow record, some were uncertain about how to manage debt and savings priorities, several participants were interested in investment but lacked basic risk-screening knowledge, and many had never received structured education on digital account protection. These problems show that the community needed practical, contextual, and easy-to-apply learning rather than theoretical financial education alone.

Based on this background, the Community Service Program aimed to strengthen PMI's capacity in four areas: managing personal and household finances, preparing simple financial plans, identifying safe and unsafe digital financial practices, and improving cybersecurity awareness. The expected benefit was the formation of more financially resilient and digitally alert migrant workers who can manage income more carefully, avoid harmful debt and fraudulent investments, protect personal data, and share basic literacy practices with peers in their community.

METHOD

This community service program was conducted online through Zoom Meeting on Tuesday, 21 October 2025, starting at 7:00 p.m. Western Indonesia Time. The target participants were 90 Indonesian Migrant Workers in Hong Kong. The online format was selected because it matched participants' mobility constraints, working schedules, and geographical distance from the university-based service team in Surabaya. The activity was designed as participatory training and counseling, combining interactive lectures, case-based discussion, digital application demonstration, guided practice, and question-and-answer sessions.

The program followed four implementation stages. The first stage was need identification, conducted through initial communication with the PMI community to map common financial and digital safety problems. The second stage was material preparation, including budgeting templates, examples of household cash-flow records, investment screening checklists, cybersecurity tips, and digital financial application demonstrations. The third stage was program delivery, which consisted of three learning sessions: personal financial management and financial planning; digital literacy and cybersecurity; and digital financial application practice. The fourth stage was evaluation and follow-up, using pre-test and post-test instruments and the establishment of a mentoring group to support continuous discussion.

The evaluation focused on five indicators: understanding of personal financial management, understanding of debt management and simple investment, ability to recognize digital fraud, ability to use digital financial recording applications, and awareness of personal data security. The indicators were measured descriptively by comparing participants' responses before and after the activity. The program did not aim to test causal hypotheses; rather, it sought to document changes in participant understanding and practical readiness after an educational intervention. The implementation team consisted of lecturers and students from STIESIA Surabaya, with roles divided into material delivery, technical facilitation, participant assistance, documentation, and evaluation data compilation.

Table 1. Implementation stages of the community service program

Stage	Main activity	Output	Responsible team
Need identification	Initial discussion with PMI community and mapping of financial and digital risk problems	Problem map and participant needs	Lecturers and community liaison
Material preparation	Preparation of budgeting templates, cybersecurity checklist, investment screening guide, and application demonstration	Training module and practice sheets	Lecturers and students
Training delivery	Interactive counseling, simulations, demonstrations, and discussion	Participant learning and guided practice	All implementation team
Evaluation and follow-up	Pre-test-post-test, reflection, and mentoring group establishment	Evaluation results and sustainability forum	Evaluation and technical team

Source: Community service program documentation (2025)

RESULTS AND DISCUSSION

The activity was implemented successfully and received an active response from the participants. The online setting did not reduce participant engagement because the material was closely related to their daily financial experience. Participants asked practical questions about budgeting with limited income, prioritizing family transfers, identifying safe investment offers, avoiding suspicious WhatsApp links, and securing personal digital accounts. This confirms that financial and digital literacy for PMI is not an abstract topic but a daily survival competency.

The first result was an improvement in participants' understanding of personal financial management. Before the activity, many participants tended to view financial management as merely saving leftover income. During the counseling session, they were introduced to a more structured approach: recording income and expenses, separating needs from wants, allocating emergency funds, controlling debt, and setting short-term and long-term financial goals. The budgeting simulation helped participants see that financial planning is possible even with limited income when expenses are categorized and monitored consistently.

The second result was increased awareness of debt management and simple investment screening. Participants were encouraged to assess debt not only from the amount borrowed but also from its purpose, repayment capacity, interest burden, and consequences for future cash flow. For investment, the discussion emphasized legality, transparency, realistic return, risk

profile, and the importance of avoiding offers that promise unusually high returns in a short period. This discussion was particularly relevant because migrant workers are often targeted by informal schemes that exploit trust, urgency, and limited access to verified financial advice.

The third result was stronger digital literacy and cybersecurity awareness. Participants learned to identify phishing, social engineering, fake links, fraudulent investment groups, suspicious account requests, and one-time password misuse. The demonstration on password security and two-factor authentication was effective because it directly showed participants how to strengthen their personal accounts. The discussion revealed that participants were already familiar with digital platforms, but familiarity did not always translate into safe behavior. This finding supports the argument that digital access should be accompanied by digital risk literacy.

The fourth result was the introduction and initial use of digital financial recording applications. Participants practiced recording expenses, categorizing transactions, and monitoring savings targets through simple applications such as Money Manager and Daily Financial Notes. The practical demonstration shifted digital technology from a consumption tool into a financial control tool. Participants also discussed how digital records could help them review spending patterns, evaluate remittance allocation, and communicate more transparently with family members in Indonesia.

Table 2. Main participant questions and presenter responses

No.	Participant question	Presenter response
1	How can we manage finances and still save money despite limited income?	Prioritize essential needs, record routine expenses, and use a simple budgeting method such as 50:30:20.
2	How can we identify safe investments?	Check legal status, verify transparency of information, understand the risk, and avoid unrealistic profit promises.
3	What should we do if we receive suspicious links through WhatsApp?	Do not open the link immediately; verify the sender and avoid sharing passwords or one-time passwords.
4	Why is two-factor authentication important?	It adds a second verification layer and reduces the risk of account takeover.
5	Which applications are easy to use for personal financial recording?	Simple applications such as Money Manager and Daily Financial Notes can be used to record expenses and monitor savings.

Source: Compiled from discussion and Q&A session during the program (2025)

The evaluation results show consistent improvement across all measured indicators. Understanding of personal financial management increased from 48 percent before the activity to 82 percent after the activity. Understanding of debt management and simple investment increased from 42 percent to 79 percent. The ability to recognize digital fraud increased from 39 percent to 76 percent. The ability to use digital financial applications increased from 35 percent to 71 percent, while awareness of personal data security increased from 44 percent to 85 percent. These results indicate that the integrated training model was useful for improving both cognitive understanding and practical readiness.

The program also produced a follow-up output in the form of a financial and digital literacy mentoring group. This group is important because single-session training often faces a sustainability problem. Through the mentoring group, participants can continue asking

questions, sharing experiences, reporting emerging fraud patterns, and encouraging peers to maintain financial records. The mentoring mechanism also creates a community-based learning environment in which PMI are not only beneficiaries but also potential literacy agents for their fellow workers.

Several supporting factors contributed to program success. The first was the relevance of the topic to participants' real problems. The second was the use of simple language, practical cases, and demonstrations rather than purely conceptual explanation. The third was the online format, which made participation more feasible for PMI in Hong Kong. However, several challenges were also identified, including differences in participants' digital skills, time limitations due to work schedules, and the need for repeated practice to build financial recording habits. These challenges suggest that future programs should include modular mentoring, asynchronous learning materials, and periodic follow-up evaluation.

Table 3. Pre-test and post-test results

Assessment indicator	Before activity	After activity	Improvement
Understanding of personal financial management	48%	82%	34 percentage points
Understanding of debt management and simple investments	42%	79%	37 percentage points
Ability to recognize digital fraud	39%	76%	37 percentage points
Ability to use digital financial applications	35%	71%	36 percentage points
Awareness of personal data security importance	44%	85%	41 percentage points

Source: Primary data from pre-test and post-test evaluation (2025)

CONCLUSION

The program improved PMI participants' understanding of financial management, debt control, simple investment screening, digital financial recording, and cybersecurity awareness. The results indicate that integrated financial and digital literacy education is relevant for strengthening migrant workers' economic resilience. Future activities should continue through structured mentoring, repeated practice, and collaboration with PMI communities, financial authorities, and migrant worker protection institutions.

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