# ABDIMAS

# Economic Empowerment of Indonesian Migrant Workers in South Korea Through Digital-Based Financial Literacy

Sucihatiningsih Dian Wisika Prajanti[1], Aldias Bahatmaka[2], Markus Diantoro[3], Herlin Pujiarti[4], Prihatini Retnaningsih[5]

[1]Development Economics, Faculty of Economics and Business, Universitas Negeri Semarang
[2]Mechanical Engineering, Faculty of Engineering, Universitas Negeri Semarang
[3,4]Physics, Faculty of Mathematics and Natural Sciences, Universitas Negeri Malang
[5]General Affairs and Finance Coordinator, Institute for Research and Community Service, Universitas Negeri Malang

**Abstract**

Indonesian Migrant Workers (PMI) contribute significantly to the national economy through remittances, but still face challenges in managing their finances wisely. The low level of financial literacy and limited utilization of digital financial services cause many PMIs to have difficulties in long-term financial planning. This service program aims to empower Indonesian migrant workers in South Korea through digital-based financial literacy training using the Design Thinking approach. Five stages in this method: Empathize, Define, Ideate, Prototype, and Test, are used to design learning media that suits user needs. The results of the activity showed that the developed media, in the form of online modules, leaflets, and training videos, were rated as excellent by experts and migrant practitioners with an average score of 3.71 on a scale of 4. The evaluation also showed that this media is easy to understand, relevant to the needs of migrant workers, and has the potential to be developed sustainably. This service not only improves the financial literacy of migrant workers, but also opens up opportunities for program replication in other migrant communities.

**Keywords:** community service, design thinking, digital media, financial literacy, migrant workers

## INTRODUCTION

Indonesian Migrant Workers (PMI) play an important role in the Indonesian economy. Data from Bank Indonesia notes that remittances sent by PMI in 2022 reached around IDR 159 trillion, contributing significantly to the country's foreign exchange reserves. South Korea is one of the main destination countries for migrant workers, with the number of workers increasing every year. Based on data from the Indonesian Migrant Workers Protection Agency (BP2MI), there are more than 50,000 migrant workers working in South Korea by the end of 2022.

However, despite earning a relatively high income compared to the average worker in Indonesia, many migrant workers face challenges in managing their finances (Amalina et al., 2024; Daulay et al., 2023). A survey from the Financial Services Authority (OJK) in 2022 showed that the financial literacy rate among Indonesian migrant workers was only 38%, much lower than the national average of 49.68%. This low level of financial literacy potentially hampers their ability to manage their income, save, or invest wisely (Hamdi et al., 2023; Hartanto et al., 2022; Istiqomah and Mafruhah, 2023). Informal surveys show that most PMIs tend to spend their income on consumptive needs without setting it aside for savings or future needs (Juddi et al., 2020).

In addition, despite the high penetration of digital technology among PMI, the utilization of digital financial services is still very limited (Krissanya et al., 2024; Kusdarini et al., 2021). Financial management applications, e-wallets, or investment platforms have not been widely used due to the lack of understanding and socialization of the benefits and how to use them (Marzuqi and Habibah, 2024). This causes PMI to miss opportunities to manage their finances more efficiently and safely (Mindarti and Nabil, 2019; Suhada et al., 2024; Sobirin et al., 2024). Reliance on conventional

financial management systems also often leaves them vulnerable to unplanned financial problems (Mediana et al., 2023; Muksin et al., 2019).

Another obstacle PMI face is the lack of time and access to financial literacy training or education. As workers, their time is limited, and available financial training is often not tailored to the specific needs of migrant workers. In addition, language barriers and limited information make financial literacy programs difficult to reach. As a result, many migrant workers lack long-term financial planning, and face economic difficulties when they return to Indonesia after their work contract ends.

For this reason, economic empowerment of PMI through digital-based financial literacy is a relevant solution. This service aims to provide training on effective financial management using digital technology, so that PMI can utilize their income for short-term needs, savings, investments, and future financial plans. This effort also supports the improvement of their welfare, both while working abroad and after returning to Indonesia. The Semarang State University (UNNES) and University of Malang (UM) service teams aim to provide positive contributions and solutions in the economic empowerment of Indonesian migrant workers in South Korea through digital-based *financial literacy*. This service activity includes the delivery of material on financial literacy.

## METHODS

This community service uses a development model (Ibrahim et al., 2024). Development research is a method used to create specific products and evaluate their effectiveness (Sugiono, 2015). This service uses the *Design Thinking* model which consists of five stages: *Empathize*: Exploring the needs of the community, *Define*: Formulate problems, *Ideate*: Create various solutions, *Prototype*: Creating prototypes, and *Test*: Test in the community and iterate.
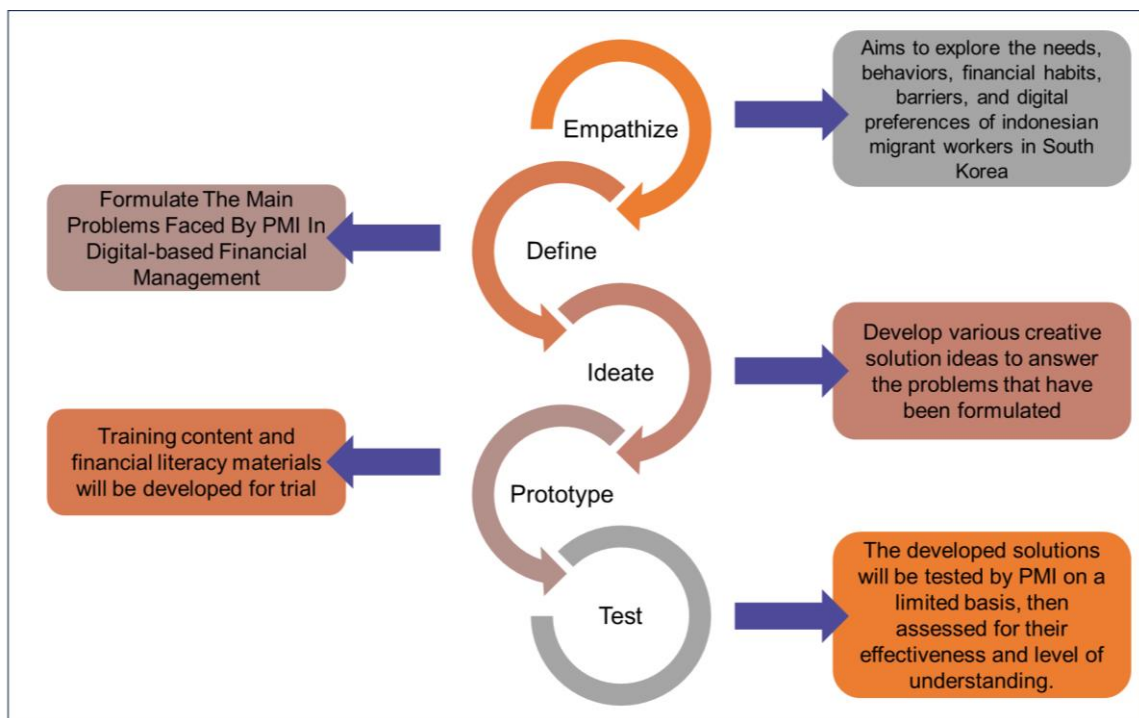


**Figure 1.** Implementation of the Design Thinking Model

Before carrying out the service activities, coordination was first carried out between the LPPM UNNES and UM service teams and the Association of Indonesian State Education Personnel Education Institutions (ALPTKNI), with service partners in this case the Indonesian Muslim Association of Daejon and Kangwon National University. The coordination was attended by all ALPTKNI members consisting of 11 LPTK in Indonesia with representatives from Kangwon National University, Prof. Jin-Yong Lee, and representatives of the Indonesian Muslim Association Daejon, Ustadz Asrof Muzaiqi. The purpose of this coordination is to get a mutual agreement for the implementation of the service to be carried out. From the results of the coordination, it was agreed

that the implementation of the service could be carried out on June 13-15, 2025.

**RESULTS AND DISCUSSION**

The results of the *Design Thinking* method in PMI community service in Daejeon, South Korea are as follows:

**1. *Empathize*: Exploring Community Needs**

At this stage, the service team conducted observations and pre-surveys to understand the real needs of PMI in Daejeon, South Korea. Through coordination with partners such as Indonesian Muslim Association Daejeon (IMNIDA) and Kangwon National University (KNU), various problems experienced by PMI were found, including:

a. Low basic and digital financial literacy,
b. Dependence on traditional financial systems,
c. Lack of utilization of financial applications,
d. Limited time and language access to training.
   Output at the Empathize stage:
a. Mapping of migrant workers' needs related to digital financial education.
b. Full support from local migrant worker communities and migrant protection organizations.

**2. *Define*: Formulate the Problem**

Based on the results of empathy and situation analysis, the team formulated the main problems as follows:

a. PMI has a high income, but is unable to manage finances sustainably.
b. Access to technology exists, but is not matched by adequate digital and financial literacy.
c. There is no flexible, simple, and Bahasa Indonesia-based financial education program.
   Output at the *Define* stage:
Specific problem formulation: PMI needs a simple, flexible, and Bahasa Indonesia-based digital educational media to improve the ability to manage finances independently and safely.

**3. *Ideate*: Creating Various Solutions**

This stage is used to design creative ideas that can answer the problems that have been formulated. Some of the solutions developed include:

a. Development of digital financial literacy training modules based on interactive videos and leaflets.
b. Creation of microlearning programs that can be accessed anytime via mobile phones, especially through WhatsApp, YouTube, and Google Drive.
c. Development of training materials based on financial application simulations, including e-wallet, budget management, and digital fraud avoidance.
   *Ideate* Stage Output:
Participatory online training concept with modular content that is responsive to PMI's time and education level.

**4. *Prototype*: Creating a Prototype**

Based on the idea developed, the team created a prototype:

a. Training materials titled *"Strategies for Improving the Financial Literacy of PMI"*, delivered in person during the workshop in Daejeon.
b. Leaflets and simple digital content on financial basics, investment, and income management.
c. Draft educational modules containing: financial planning, budget simulation, investment strategies, and tips on avoiding digital fraud.
   Output at the *Prototype* stage:
Visual and digital materials (leaflets, slides, videos) used in direct training and disseminated via online media.

**Figure 2.** Financial Literacy Exposure Material Delivered by the Service Team

## 5. *Test*: Trial and Iteration

The testing stage was carried out during the training on June 13-15, 2025. PMI who attended gave a positive response to the material presented. They said:

a. The material is easy to understand because it is in Indonesian,

b. Topics are relevant to daily needs,

c. Desire to have continuous access to digital materials.

*Feedback* and Iteration:

a. The material will be further developed in the form of e-learning that can be accessed independently.

b. Collaboration with PMI communities in other areas is needed to expand the reach of the training.

*Test* phase output:

a. Initial validation of program usefulness,

b. Identification of needs for wider scale and sustainable development.

**Figure 3.** Financial Literacy Training Trial in Daejeon, South Korea

In addition to the *Design Thinking* method, there is a program evaluation conducted by migrant experts and practitioners as follows:

**Table 1.** Expert Comments and Suggestions

| Respondent | Comments, Suggestions, Feedback |
|---|---|
| Expert 1 | The material has been organized with a systematic flow and communicative language. However, it is recommended to add interactive visual illustrations in each module to increase user interest, especially PMI with low literacy levels. Also, make sure the user guide can be accessed offline. |
| Expert 2 | The content is quite applicable and relevant to the needs of PMI. A short quiz or self-reflection feature should be added at the end of the module to measure understanding. Access to the application or platform should also be tested in various network conditions, as not all PMIs have stable internet access. |
| Migrant Practitioners | This media is very helpful for migrant workers who want to learn independently. However, it would be better if local language options (e.g. Javanese or Sundanese) were available to be more inclusive. It is also hoped that there will be further collaboration with the migrant community to distribute the materials in a sustainable manner. |

**Table 2.** Evaluation of *Design Thinking-Based* Financial Literacy

| No. | Criteria | Expert 1 | Expert 2 | Migrant Practitioners | Average |
|---|---|---|---|---|---|
| 1 | Media is easy to use by the target | 4 | 4 | 4 | 4,00 |
| 2 | Material in accordance with user needs | 4 | 4 | 4 | 4,00 |
| 3 | Media design is attractive and communicative | 3 | 4 | 4 | 3,67 |
| 4 | Media encourages active user participation | 3 | 4 | 4 | 3,67 |
| 5 | The language used is easy to understand | 4 | 4 | 4 | 4,00 |

| | | | | | |
|---|---|---|---|---|---|
| 6 | Content provides information that is applicable in real life | 3 | 3 | 4 | 3,33 |
| 7 | Media can be accessed flexibly | 4 | 4 | 4 | 4,00 |
| 8 | Media facilitates family/closest person involvement in learning/mentoring | 4 | 3 | 4 | 3,67 |
| 9 | The material supports positive behavior change (e.g. saving/investing habits) | 4 | 4 | 4 | 4,00 |
| 10 | There is a clear usage guide | 4 | 3 | 4 | 3,67 |
| 11 | Security and privacy of user data are well maintained | 3 | 3 | 3 | 3,00 |
| 12 | Frequency of media use according to user needs | 3 | 3 | 3 | 3,00 |
| 13 | Monitoring and evaluation of implementation is easy to do | 3 | 4 | 3 | 3,33 |
| 14 | User reflection on the experience of using the media | 4 | 4 | 4 | 4,00 |
| 15 | Media encourages user independence in managing finances or self-learning | 4 | 4 | 4 | 4,00 |
| 16 | Potential for program development and sustainability through this media | 4 | 4 | 4 | 4,00 |
| Total | | | | | 59,33 |

Rating Scale Description:
a. Very Good = 4
b. Good = 3
c. Enough = 2
d. Less = 1

According to the formula:
$M = \sum x : N = 59{,}33 : 16 = 3{,}71$
Notes:
M: Average
$\sum x$: Total score
N: Total number of objects

Based on the calculation, the average value of product validation by design experts is 3.71 which according to a 4-point scale is in the range of $3.25 < M \leq 4.00$, which is categorized as "**Very Good**".

Based on the results of program evaluation by migrant experts and practitioners, the digital-based financial literacy media developed through the *Design Thinking* approach is considered very good and suitable for use by Indonesian Migrant Workers (PMI). The quantitative assessment results show an average score of 3.71 on a scale of 4, which is in the "Very Good" category. Aspects with the highest scores include ease of use of the media, suitability of the material to user needs, use of

communicative language, potential for positive behavior change, and support for user independence. Meanwhile, aspects that received relatively lower scores and need to be improved include protection of data privacy, adjustment of the frequency of media use, and monitoring and evaluation mechanisms. Qualitatively, experts provided constructive feedback, such as the importance of adding interactive visual illustrations, providing offline access, inserting reflective quizzes, and considering access tests in limited network conditions. Migrant practitioners also suggested the use of local languages and community involvement in program dissemination. Thus, the media developed is not only relevant and applicable, but also has the potential to be expanded through strengthening features and collaboration with user communities.

## CONCLUSION

Indonesian Migrant Workers (PMI) play a strategic role in the national economy through significant remittance contributions. However, the low level of financial literacy and the lack of utilization of digital financial services are challenges that hamper the ability of PMI to manage income wisely and sustainably. Community service carried out by the Semarang State University (UNNES) and University of Malang (UM) teams through the *Design Thinking* approach has successfully responded to these problems by developing digital-based educational media that is simple, flexible, and communicative. The stages of *Design Thinking* that include *Empathize, Define, Ideate, Prototype*, and *Test* produce outputs in the form of training modules, leaflets, and digital materials that are in accordance with the needs of PMI and received positive responses when tested in Daejeon, South Korea. Expert validation and migrant practitioners showed that the media developed was classified as very good with an average score of 3.71, and was considered relevant, applicable, and had the potential for continued development. Some suggestions for improvement were also given, such as the addition of interactive illustrations, reflective features, offline access, and local language support to reach more users. Thus, this service activity not only provides a practical solution to the financial literacy challenges of PMI, but also becomes an inclusive and replicable model of educational intervention for migrant communities in other countries.

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