



STRATEGIC EMPOWERMENT OF SMES THROUGH DIGITAL FINANCIAL LITERACY: A CROSS-BORDER ENGAGEMENT FRAMEWORK USING SME ACCOUNTING STANDARDS AND FINANCIAL TECHNOLOGY TO SUPPORT SDG 9

Ayatullah Michael Musyaffi^{1*}, Windy Permata Suyono², Choirul Anwar³, Petrolis Nusa Perdana⁴, Andrew Saw Tek Wei⁵, Arief Kurniawan⁶

^{1,2,3,4,5,6}State University of Jakarta, Indonesia

⁵Universiti Malaysia Sabah, Malaysia

Correspondent Email: musyaffi@unj.ac.id¹

Abstract

Small and Medium Enterprises (SMEs) are essential contributors to economic development, especially in emerging countries. However, many SMEs lack the knowledge and tools to manage their finances effectively, particularly through standardized and digital approaches. This community engagement initiative seeks to enhance the digital financial literacy of SMEs through a cross-border collaboration between the State University of Jakarta (Indonesia) and the University Malaysia Sabah. The program introduced a structured empowerment framework integrating SME accounting standards particularly Indonesia's SAK EMKM with financial technology applications to support accurate and timely financial reporting.

The activities included virtual training and mentoring on financial literacy, cloud-based accounting tools, and simplified financial reporting procedures. Evaluation results showed significant improvement in participants' ability to record transactions, prepare basic financial statements, and use digital accounting tools independently. This project demonstrates that integrating localized SME standards with financial technology can strengthen SME resilience, promote innovation, and contribute to Sustainable Development Goal 9 (Industry, Innovation, and Infrastructure).

Keywords: SMEs, Digital Financial Literacy, SAK EMKM, Financial Technology, Community Engagement, SDG 9

INTRODUCTION

Small and Medium Enterprises (SMEs) are widely recognized as key drivers of economic growth, employment, and innovation, especially in developing economies like Indonesia and Malaysia. Despite their significant contribution to GDP and local development, many SMEs still struggle with basic financial literacy, especially in maintaining structured, standardized, and digital financial records. This limitation hinders their ability to access formal financing, manage operational risks, and ensure long-term sustainability.

One of the initiatives introduced in Indonesia to address this gap is the SAK EMKM (Standar Akuntansi Keuangan untuk Entitas Mikro, Kecil, dan Menengah), a simplified accounting standard specifically designed for SMEs. While SAK EMKM provides an accessible financial reporting framework, its adoption among SMEs remains limited due to low awareness and inadequate digital competence.

Improving SMEs' capacity in digital financial reporting is critical in the digital transformation era and global integration. Aligning this effort with Sustainable Development Goal 9 (SDG 9), which promotes inclusive and sustainable industrialization, fosters innovation, and builds resilient infrastructure, becomes a strategic direction.

To respond to this need, a cross-border community service initiative was launched through a collaboration between the State University of Jakarta and the University Malaysia Sabah—the program aimed to empower SMEs by integrating SME accounting standards with user-friendly financial technology tools. Through online workshops, mentoring sessions, and hands-on guidance, the project equipped SMEs particularly those in tourism-based areas with practical skills in recording, reporting, and managing financial information digitally. This article presents the initiative's framework, implementation, and results, highlighting its relevance in strengthening SME resilience and digital capacity across borders.

This initiative addresses the practical challenges faced by SMEs and serves as a model of transnational academic collaboration in community service. The program demonstrates how higher education institutions can contribute meaningfully to local economic empowerment and global development goals by combining accounting education, digital innovation, and cross-border knowledge exchange.

LITERATURE REVIEW

Small and Medium Enterprises (SMEs) play a critical role in economic growth, particularly in developing countries, where they significantly contribute to employment and gross domestic product. However, many SMEs face persistent challenges in managing their finances, including limited understanding of financial reporting, poor recordkeeping practices, and restricted access to formal financing. According to the World Bank (2020), a lack of financial literacy is a significant barrier to SME sustainability, especially in navigating complex and evolving financial systems. Enhancing financial literacy is essential to improve business decision-making and enable SMEs to become more resilient in the face of economic uncertainties (Lusardi & Mitchell, 2014).

Digital financial tools have emerged as practical enablers for improving SME financial practices. Cloud-based accounting applications, automated bookkeeping systems, and mobile financial platforms allow SMEs to manage their operations more efficiently and affordably. These technologies provide real-time financial insights, improve transparency, and reduce human error. Nevertheless, adoption of such tools is still limited in many regions due to digital skill gaps, infrastructure challenges, and a lack of technical support (PwC, 2021; Gbandi & Amissah, 2020). Addressing this requires structured interventions that combine training, mentoring, and ongoing digital literacy support.

In Indonesia, the Indonesian Institute of Accountants (Ikatan Akuntan Indonesia/IAI) introduced the SAK EMKM (Standar Akuntansi Keuangan untuk Entitas Mikro, Kecil, dan Menengah) as a simplified financial reporting standard tailored for SMEs. This framework significantly reduces the complexity of financial reporting by focusing on basic financial statements such as the balance sheet, income statement, and simplified notes to financial statements. Santiago and Estiningrum (2021) emphasized that SAK EMKM improves the credibility and consistency of

financial reports among small businesses, thereby facilitating better access to finance and institutional partnerships.

Universities' involvement in community-based empowerment programs offers a strategic pathway to improving SME capacity. Through service-learning and engagement initiatives, higher education institutions can bridge the gap between theory and practice by directly supporting local enterprises. When implemented through international collaboration, such programs gain additional value by promoting cross-cultural exchange, comparative learning, and mutual academic development. Nurdin and Hermawan (2022) argue that transnational engagement accelerates knowledge dissemination and aligns with Sustainable Development Goal 9 (SDG 9), which promotes innovation, industry, and infrastructure.

METHOD AND PROCEDURES

This community engagement program employed a Participatory Action Research (PAR) approach, combining training, mentoring, and collaborative implementation with SME participants in two partner locations: Indramayu, Indonesia, and Kota Kinabalu, Malaysia. The main objective was to build digital financial literacy among SMEs by introducing simplified accounting standards and accessible financial technology, delivered through structured, cross-border academic collaboration.

The project was carried out in four key phases: (1) needs assessment, (2) development of digital financial literacy training materials for SMEs, (3) training and mentoring, and (4) evaluation. In the first phase, the team collected preliminary data through interviews and short surveys to identify gaps in financial knowledge, digital tool usage, and understanding of accounting standards. Facilitators from both Indonesia and Malaysia were involved to ensure that the needs analysis reflected cross-national perspectives.

In the second phase, the team developed bilingual (Bahasa Indonesia and English) training materials focused on SME accounting principles (based on SAK EMKM), basic financial reporting, and cloud-based accounting applications such as Accurate Lite and Wave. Considering their digital literacy levels, the materials were designed to be practical, easy to understand, and directly applicable to participants' business activities.

The third phase involved a two-day hybrid and virtual training program conducted via Zoom, attended by SME participants and student volunteers from both universities. The sessions included live demonstrations, guided hands-on exercises, and interactive Q&A discussions. Participants were trained step-by-step on recording business transactions, preparing basic financial reports, and securely managing cloud-based financial data.

The fourth phase focused on post-training monitoring and evaluation. Pre- and post-tests were administered to assess improvements in knowledge and confidence. Additionally, in-depth interviews

and focus group discussions (FGDs) were conducted with selected SME participants to gather qualitative feedback regarding the training and tools' usability, relevance, and perceived benefits. Quantitative data were analyzed using descriptive statistics, while qualitative data were interpreted thematically.

This method allowed for iterative program refinement during implementation and fostered stronger engagement between universities and SME communities in both countries. The participatory nature of the approach ensured that the learning process was contextualized, user-centered, and aligned with real-world business practices.

The implementation program is scheduled for one day, and the activity report is as follows:

1. Time and Place of Implementation
 - a. Date: Wednesday, June 11, 2025
 - b. Time: 08.00 to 12:35 WIB
 - c. Place: Bulak Village Hall, Indramayu, Indonesia
 - d. Activity Partner: Universiti Malaysia Sabah
2. Implementation (Event Arrangement)

The composition of the implementation event is as follows:

Table 1. Event Arrangements

No	Time	Duration	Activity	Speaker/Notes
1	08:00 – 08:05	5 min	Opening by MC	Putri Haryani
2	08:05 – 08:10	5 min	Singing of the Indonesian Raya National Anthem	Led by the MC and all participants
3	08:10 – 08:20	10 min	Welcome Remarks from UNJ Representative	Adam Zakaria
4	08:20 – 08:30	10 min	Remarks from Bulak Village Representative	Village Secretary Mr. Resi Dwi Atmaja
5	08:30 – 08:35	5 min	Souvenir Handover and Group Photo Session	–
6	08:35 – 09:00	25 min	Keynote Speech by International Guest Speaker (via Zoom)	Dr. Andrew Shaw Tek Wei
7	09:00 – 10:00	60 min	Session 1: Business Planning (from proposal, budgeting, to taxation)	Gentiga Muhammad Zairin
	10:00 – 10:15	15 min	Ice Breaking Session	–
	10:15 – 11:15	60 min	Session 2: Financial Reporting Applications for SMEs and Village-Owned Enterprises (BUMDes)	Ayatullah Michael Musyaffi & Muhammad Yusuf
10	11:15 – 12:15	60 min	Session 3: Marketing Strategy via Social Media	Bangun Indra Pratama
11	12:25 – 12:35	10 min	Closing by MC	–

RESULTS AND DISCUSSION

Implementing this community engagement program resulted in measurable improvements in

participants' knowledge, skills, and confidence in managing digital financial records using simplified SME accounting standards. The program involved 35 Bulak Village, Indramayu SMEs and engaged cross-border academic support from University Malaysia Sabah. Participants represented various sectors, including culinary, retail, tourism-based services, and agriculture-related businesses.

Based on the pre- and post-assessment data, 83% of participants showed increased understanding of financial reporting components such as income statements and balance sheets. Before the training, only 26% of SMEs could identify all required financial components under SME accounting standards. After the training, this figure rose to 79%, indicating substantial conceptual improvement. Participants also gained practical experience using cloud-based accounting applications (e.g., Accurate Lite and Wave), with 68% of them able to independently input transactions and generate basic reports by the end of the program.

Qualitative feedback collected through post-training interviews and focus group discussions (FGDs) highlighted several key outcomes. Many participants appreciated the practical nature of the training, particularly the hands-on demonstrations and bilingual guidance. They also valued the relevance of materials to their real-life business operations, especially in planning simple budgets, understanding taxes, and applying the knowledge to fulfil village-owned business (BUMDes) reporting obligations. A participant noted: "This is the first time I understand how to record daily income and expenses properly, and now I can even generate a report to present to our community cooperative."

The international keynote session by Dr. Andrew Shaw Tek Wei from the University of Malaysia Sabah added a valuable cross-border perspective. He emphasized the importance of transparency in financial reporting for community-based enterprises and the role of digital financial tools in building trust and sustainability.

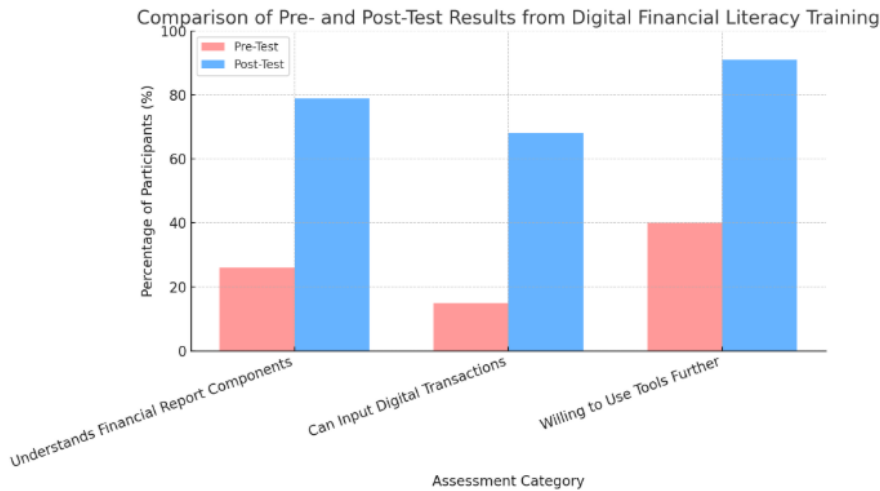
One key finding was the positive shift in perception toward digital financial management. Initially, several SME owners expressed skepticism and anxiety about using accounting software. However, their confidence grew through guided simulation, peer support, and user-friendly interfaces. By the end of the training, 91% of participants stated they were willing to continue using the tools introduced and expressed interest in further digital training.

The results support previous studies by Santiago and Estiningrum (2021), who argued that simplified accounting standards like SAK EMKM can improve SME financial transparency when delivered alongside structured capacity building. Furthermore, this program aligns with Lusardi and Mitchell's (2014) assertion that financial literacy is a cornerstone of sustainable entrepreneurship.

From a broader perspective, the program also demonstrated how cross-border university collaboration can enhance the effectiveness and scalability of community-based empowerment. Combining localized knowledge, international perspectives, and accessible digital tools contributed to

a meaningful and measurable impact on the ground.

Overall, the initiative successfully advanced several targets of SDG 9, particularly in strengthening inclusive and sustainable industrialization and fostering innovation in underserved economic sectors. The strategic blend of academic support, financial education, and digital transformation created a scalable model that can be replicated in similar rural or semi-urban contexts.



The bar chart illustrates a significant improvement in participants' digital financial literacy following the training program. The percentage of participants who understood the components of basic financial reports (such as income statements and balance sheets) increased from 26% before the training to 79%. In comparison, the ability to input digital financial transactions using cloud-based tools rose from 15% to 68%. Notably, the willingness to continue using digital financial tools increased from 40% to 91%, indicating a substantial positive shift in mindset toward adopting technology in daily financial practices. These findings suggest that the training not only enhanced knowledge and skills but also addressed psychological barriers such as fear or resistance to digital tools, with the combination of simplified materials, bilingual instruction, and practical hands-on guidance proving effective in improving both competence and confidence among SME participants.

The documentation of the offline seminar activity under the program titled “*Strategic Empowerment of SMEs Through Digital Financial Literacy: A Cross-Border Engagement Framework Using SME Accounting Standards and Financial Technology to Support SDG 9*”, held in Bulak Village, Indramayu Regency, Indonesia, is presented as follows:



Figure 1. Activity Banner



Figure 2. Speech from Keynote speaker




Figure 2. Handover of Partnership Plaque from UNJ to Bulak Village




Figure 3. Presentation of Training Materials to Participants



Figure 4. Documentation



KEMENTERIAN PENDIDIKAN TINGGI, SAINS, DAN TEKNOLOGI
UNIVERSITAS NEGERI JAKARTA
 Kampus Universitas Negeri Jakarta, Jalan Rawamangun Muka, Jakarta 13220
 Telepon Rektor: 4893854, WR I: 4895130, WR II: 4893918,
 WR III: 4892926, WR IV: 4893982, Humas: 4898486
 Laman www.unj.ac.id



KEMENTERIAN PENDIDIKAN TINGGI, SAINS, DAN TEKNOLOGI
UNIVERSITAS NEGERI JAKARTA
 Kampus Universitas Negeri Jakarta, Jalan Rawamangun Muka, Jakarta 13220
 Telepon Rektor: 4893854, WR I: 4895130, WR II: 4893918,
 WR III: 4892926, WR IV: 4893982, Humas: 4898486
 Laman www.unj.ac.id

Daftar Hadir
 Kegiatan Pengabdian Masyarakat di Desa Bulak Indramayu
 11 Juni 2025

No	Nama	Tanda Tangan
1	ROHENI	[Signature]
2	TATI KOMIT	[Signature]
3	XELI	[Signature]
4	MASEHATI	[Signature]
5	RIYANA	[Signature]
6	KUSFIS	[Signature]
7	cutin	[Signature]
8	Een endromani	[Signature]
9	DERIH	[Signature]
10	Lin Kamalagan	[Signature]
11	DARMA	[Signature]
12	MURHANI	[Signature]
13	Meli	[Signature]
14	Anita	[Signature]
15	Dede Meliah R	[Signature]
16	PURDI RUMAH	[Signature]
17	KUSUMATI	[Signature]
18	Isi Qui	[Signature]

Daftar Hadir
 Kegiatan Pengabdian Masyarakat di Desa Bulak Indramayu
 11 Juni 2025

No	Nama	Tanda Tangan
19	Tuti Fatmahan	[Signature]
20	Kuswari	[Signature]
21	Agus Subekti	[Signature]
22	Yani Sumah	[Signature]
23	Hs. Murniah S Pd	[Signature]
24	DEDI	[Signature]
25	Dava	[Signature]
26	Alur pondi	[Signature]
27	Tolanza	[Signature]
28	Epo Purnama	[Signature]
29	Lilis	[Signature]
30	Jenane	[Signature]

Figure 5. List documentation present

CONCLUSION

This community engagement program successfully enhanced the digital financial literacy of SMEs through a structured cross-border collaboration between the State University of Jakarta and the University Malaysia Sabah. By integrating SME accounting standards with accessible financial technology tools, the program equipped participants with practical financial reporting, budgeting, and digital recordkeeping skills. The results demonstrated significant improvements in participants' understanding, confidence, and willingness to adopt digital solutions in managing their businesses.

Moreover, the initiative addressed not only knowledge gaps but also psychological barriers to digital adoption, particularly among rural-based entrepreneurs. The participatory and contextual approach supported by hands-on training, bilingual materials, and expert facilitation effectively empowered local communities and strengthened SME resilience. This program also contributed to advancing Sustainable Development Goal 9 by promoting inclusive innovation and sustainable

economic infrastructure at the grassroots level. The model developed through this initiative can serve as a replicable framework for future empowerment programs in similar communities across regions.

SUGGESTION

To ensure this initiative's sustainability and broader impact, similar digital financial literacy programs should be replicated in other rural and semi-urban communities, particularly those with active SMEs and village-owned enterprises (BUMDes). Continuous mentoring and follow-up support are essential to help SMEs adopt digital tools in the long term. In addition, collaboration between universities across countries should be further strengthened to foster innovation, exchange best practices, and build regional capacity in community-based development aligned with SDG goals. Future programs are encouraged to include digital marketing, product branding, and e-commerce readiness as complementary components of SME empowerment.

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