

## Strengthening Financial Management Skills among OTOP Entrepreneurs through Digital Tools

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### ABSTRACT

This study aimed to strengthen financial management skills among OTOP (One Tambon One Product) entrepreneurs in Bangprong Subdistrict, Bangkok, Thailand, through digital tools. Many OTOP businesses face challenges in maintaining proper financial records and limiting their access to external financing. A training program was implemented on August 26, 2025, which combined lectures, hands-on practice, consultation, and digital tool simulations using Microsoft Excel.

The results showed a significant improvement in participants' financial literacy, with test scores increasing from 48.6% to 82.4%. Approximately 80% of the participants successfully completed digital transaction simulations, and 60% continued using these tools after two weeks. Participants reported greater confidence in managing their business finances, although infrastructure and sustained usage remained challenges.

The study concludes that digital-based training effectively improves financial literacy and technology adoption, but long-term success requires continuous mentoring, collaboration with stakeholders, and integration of widely used digital platforms.

**Keywords:** financial literacy, digital tools, OTOP entrepreneurs, Thailand

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### INTRODUCTION

Micro, small, and medium-sized enterprises (MSMEs) constitute a central pillar of economic development in Southeast Asia, contributing substantially to employment, income generation, and poverty alleviation. In Thailand, the *One Tambon One Product (OTOP)* initiative has long been recognized as a community-based policy instrument

for promoting local entrepreneurship, preserving cultural heritage, and stimulating rural livelihoods by developing and marketing locally produced goods such as handicrafts, processed foods, and herbal products. Despite the socio economic significance of OTOP enterprises, empirical evidence and practitioner reports indicate persistent challenges in managerial capacity, notably in financial record-keeping, cash flow control, and the preparation of credible financial statements, which constrain firms' abilities to scale, obtain formal financing, and operate professionally in increasingly digital markets. At the same time, Thailand has experienced a rapid expansion of digital financial infrastructure and cloud-based accounting solutions (e.g., FlowAccount, Xero, QuickBooks via local resellers), along with higher penetration of mobile payment systems and e-commerce platforms; such digital innovations create new opportunities for improving the efficiency, transparency, and accessibility of financial management among small enterprises. Therefore, the present study addresses the intersection of these two realities, OTOP entrepreneurs' persistent financial-management gaps and the increasing availability of digital tools that can transform basic bookkeeping into timely, auditable, and decision-useful financial information.

A growing body of recent literature examines technology adoption and financial management among SMEs in Thailand and in similar contexts. Several studies have demonstrated clear benefits associated with cloud accounting and digitalization for small firms. Sastararaji et al. (2022) conducted an explanatory case study on cloud accounting adoption among Thai SMEs in the wake of the COVID-19 pandemic and concluded that cloud accounting fosters greater flexibility, improved organization of financial information, and cost efficiency and emphasized that adoption is mediated by firm-specific characteristics and the institutional environment. Empirical analysis of the depth and intensity of digital technology adoption in Thailand suggests a positive and heterogeneous impact on financial performance. Jongwanich and Kohpaiboon (2025) find that the depth of ICT adoption, presence of ICT-skilled personnel, firm size, and sectoral characteristics significantly moderate the effects of digital technology on SMEs' financial outcomes. These findings collectively indicate that the mere availability of digital tools is insufficient adoption quality, fit with organizational capacity, and complementary human skills (digital literacy and financial literacy) determine whether digitalization yields performance gains. In the OTOP setting, Boonyarasai and Jongsureyaphas (2018) identified "accounting and financial capabilities" as a primary success factor among OTOP entrepreneurs, reinforcing the notion that strengthening accounting skills is central to program effectiveness and scaling.

Beyond technology adoption, parallel literature on financial literacy highlights the role of entrepreneurs' knowledge and behaviors in shaping financial practices and business performance. Broad reviews and context-specific studies that higher levels of financial literacy correlate with better financial decision making, improved access to finance, and stronger firm performance (Lusardi et al., 2013). In Southeast Asian small-firm contexts, research by Destiari (2025) Lubis et al. (2024) and Lubis et al. (2024) indicate that the interaction between financial literacy and digital financial services (FinTech) is particularly salient as digital tools can amplify the positive effects of financial knowledge by simplifying record-keeping, automating calculations, and producing standardized outputs usable for loan applications and managerial

decisions. However, several studies have noted that structural barriers, including limited digital skills, intermittent Internet connectivity, and affordability of devices and software, frequently inhibit the effective uptake of digital accounting solutions in smaller or rural firms (Sastararuji et al., 2022; Nasir & Ginting, 2025). Thus, the state of the art emphasizes an integrated perspective: to meaningfully improve MSME financial management, interventions must address technical tools, human competencies (financial and digital literacy), and contextual constraints (infrastructure and institutional support).

Despite this accumulated knowledge, important gaps remain that motivate this study. First, although cloud accounting and digital payment systems have been studied at the general SME level, there is limited empirical research focusing specifically on OTOP entrepreneurs, a distinct category of community-based producers whose business models, scales, and institutional linkages differ from those of urban SMEs. Existing OTOP studies tend to emphasize product quality, marketing, and community organization, whereas accounting capability studies specific to OTOP are scarce (Boonyarasai & Jongsureyaphas, 2018). Second, while prior research demonstrates the potential of digital tools for accounting, few intervention studies document a practical, on-the-ground combination of hands-on financial literacy training and tailored introduction to digital accounting tools among OTOP participants in Thailand, including measurement of short-term adoption, behavioral change, and early indicators of readiness to access formal finance. Third, research that systematically articulates the *mechanisms* through which digital tools and financial literacy jointly improve financial management (i.e., by enhancing data quality, lowering transaction costs, and increasing transparency for lenders) in the OTOP setting remains underdeveloped. In short, the literature indicates both opportunity and uncertainty: digital tools can help, but the program designs that actually lead to adoption and improved financial practices among OTOP entrepreneurs are not yet well established.

The scientific novelty of the present study is twofold. First, it operationalizes and empirically examines an integrated capacity-building intervention, combining contextualized financial literacy training with immediate, practical introduction to locally relevant digital accounting tools (for example spreadsheet templates), targeted specifically at OTOP entrepreneurs in a Bangkok subdistrict. Unlike descriptive or macro-level studies of cloud accounting adoption, this paper reports original field evidence (participatory action research) on short-term learning outcomes, digital tool uptake, and self-reported changes in record-keeping behavior among OTOP participants. Second, the study explicitly tests the mediating role of digital tool confidence and practical financial literacy in the pathway from training to behavioral adoption and readiness to seek formal finance distinguishing the contribution from prior work documents correlations but rarely unpacks intermediary behavioral processes in an OTOP context. Put differently, the novelty lies not only in demonstrating whether digital tools and training matter for OTOP entrepreneurs but also in identifying *how* knowledge and tool familiarity interact to produce observable changes in accounting practices.

Formally, these novel aspects motivate two primary research problems and the associated hypotheses. The first research question asks: Does an integrated intervention (financial literacy training + digital accounting tools) significantly increase OTOP

entrepreneurs' financial management skills and propensity to maintain systematic records? This leads to Hypothesis 1 (H1): *Participants who receive combined financial-literacy and digital-tool training will show greater improvements in financial-recordkeeping knowledge and practice (pre-post changes) compared to baseline levels.* The second research problem focuses on mechanisms and outcomes: To what extent does increased digitaltool confidence mediate the effect of training on behavioral adoption and readiness to approach formal financial institutions? This yields Hypothesis 2 (H2): *Improvements in digital-tool confidence and practical financial literacy will mediate the relationship between training and (a) sustained use of digital records and (b) perceived readiness to apply for formal credit.* A secondary exploratory question examines contextual constraints: Which infrastructural or socio economic barriers (e.g., Internet connectivity, device ownership, education level) moderate the effect of the intervention on adoption? This supports Hypothesis 3 (H3): *Infrastructure limitations and lower baseline digital literacy will attenuate the magnitude of adoption gains.*



**Figure 1. OTOP entrepreneurs are showcasing their products**

Source : Documentation by the author

In light of these research gaps, hypotheses, and the identified novelty, the present study implemented a participatory Community Service Program in Bangprong Subdistrict, Bangkok, Thailand, on August 26, 2025, targeting OTOP entrepreneurs. As shown in Figure 1, OTOP entrepreneurs actively market their products after participating in the training. The program combines a concise but practice-focused curriculum on financial fundamentals (cash flow, simple income statement, separation of personal vs. business accounts) with step-by-step hands-on sessions using affordable and locally relevant digital tools (e.g., spreadsheet templates). The ultimate purpose of this study is to evaluate whether this integrated, context-sensitive approach strengthens Financial management skills among OTOP entrepreneurs, identify the behavioral and technological mechanisms driving any observed changes, and provide evidence-based recommendations for scaling similar interventions across OTOP communities. By doing so, the article provides empirically grounded guidance for policymakers, digital vendors, and university-based extension programs seeking to enhance the sustainability and formal-finance readiness of community-based microenterprises.

OTOP entrepreneurs have a product called Crispy Roll Cake, which is a thin,

crispy, and sweet snack similar to a rolled wafer. This snack is processed using machines provided by the government, although some are still produced manually. Figure 2 shows the machine provided by the government to process the Crispy Roll Cake.



**Figure 2. Machine for Processing Cakes**

Source : Documentation by the author

## METHOD

This community service program was designed using a community education and training approach combined with elements of consultation and technology simulation. This hybrid method was chosen to ensure that participants not only received theoretical knowledge but also gained practical skills in applying digital financial tools directly relevant to their businesses.

The target audience of this program consisted of One Tambon One Product) entrepreneur located in Bangprong Subdistrict, Bangkok, Thailand. The group included 25 small-scale entrepreneurs who were engaged in food processing. The participants were selected in coordination with local community leaders and OTOP coordinators to represent the diversity of business activities in the area. Most of these entrepreneurs had limited formal training in business management and relied on manual bookkeeping.

Community service activities were conducted on August 26, 2025, at the Bangprong Subdistrict Community Hall in Bangkok. The venue was selected for its accessibility to participants and the availability of electricity, Internet connection, and facilities for digital demonstrations. The session lasted for one full day (eight hours) and included lectures, hands-on workshops, group discussions, and evaluation. As shown in Figure 3, OTOP entrepreneurs enthusiastically participated in the financial management training held in Bangprong sub-district, Bangkok, Thailand.



**Figure 3 . Financial Management Training for OTOP Entrepreneurs**

Source : Documentation by the author

The program employed a training-based community education model, supplemented with technology simulation and consultation

1. Community Education (Training and Counseling): Participants attended structured lectures and counseling sessions on financial literacy, focusing on the basics of cash flow management, income and expense categorization, and the separation of personal versus business finances.
2. Hands-on Training and Demonstration: Participants were introduced to digital financial tools, Microsoft Excel Sheets, and simple templates designed for SMEs to record transactions and generate income statements. Each participant practiced entering their own sample transactions using laptops provided by the university team. Figure 4 shows one of the Excel sheets used in financial management training for the OTOP entrepreneurs. The Excel file was downloaded from <https://www.beginner-bookkeeping.com>.
3. Consultation and Group Mentoring: Small-group sessions were conducted in which participants discussed their current bookkeeping practices and received tailored advice from facilitators on how digital tools could address their specific challenges.
4. Technology Simulation: Since not all participants owned laptops, some demonstrations were conducted via simulation using projected screens and interactive guidance to ensure that all entrepreneurs could follow the process of creating digital financial records.

The materials used for the program included:

- a. Printed booklets (50 copies) containing financial literacy training modules were prepared by the university team.
- b. Digital templates (Excel) preloaded onto USB drives and shared via cloud links.
- c. Projectors and laptops (five units provided by the university team), as well as the participants' own smartphones. These resources were prepared one month prior to the program and adapted to ensure they were culturally relevant and written in a bilingual format (Thai-English).



The screenshot shows an Excel spreadsheet with the following structure:

- Profit and Loss Statement** (For Year Ending 2025)
- Income**
  - Income Account 1: 0.00
  - Income Account 2: 0.00
  - Income Account 3: 0.00
  - Income Account 4: 0.00
  - Income Account 5: 0.00
  - Income Account 6: 0.00
  - Income Account 7: 0.00
  - Total Income**: 0.00
- Gross Profit**: 0.00
- Expenses**
  - Expense Account 1: 0.00
  - Expense Account 2: 0.00
  - Expense Account 3: 0.00
  - Expense Account 4: 0.00
  - Expense Account 5: 0.00
  - Expense Account 6: 0.00

The spreadsheet also includes a 'Summary of all Income and Expenses from Every Bank Account and Credit Card' section, which is currently blank.

**Figure 4. the Excel Sheets Used in Financial Management Training**

Source : <https://www.beginner-bookkeeping.com>

The evaluation consisted of three stages:

1. Pre-test and Post-test: A questionnaire of 20 items measuring financial literacy and confidence in using digital tools was administered before and after training.
2. Observation: Facilitators recorded the level of engagement and accuracy with which participants entered financial data into templates during the hands-on sessions.
3. Follow-up Survey: Two weeks after the program, participants were contacted via phone and email to assess the extent of adoption of digital tools in their daily business practices.

Data analysis employed Descriptive statistics were used to compare pre- and post-test scores, providing quantitative evidence of the changes in knowledge and confidence. Observational data and follow-up surveys were analyzed qualitatively to identify common themes, adoption barriers, and participant feedback.

## RESULTS AND DISCUSSION

### Research Results

The implementation of community service activities produced several measurable outcomes:

1. Improvement in Financial Literacy

The pre- and post-test results showed a significant improvement in the participants' financial literacy. The average pre-test score was 48.6%, whereas the post-test average increased to 82.4%. This result indicates that the community education and training method effectively enhanced the participants' understanding of financial concepts such as cash flow management, categorization of expenses, and basic digital bookkeeping.

2. Adoption of Digital Financial Tools.

During the hands-on session, 80% of the participants (20 out of 25)

successfully completed digital transaction recording using Excel or Google sheet templates. In the follow-up survey two weeks later, 60% of participants reported continuing to use these digital tools in their daily operations, while the rest indicated barriers such as lack of devices or limited Internet access.

3. Participant Engagement and Confidence.

Observation notes revealed a high level of engagement during simulation and group consultation sessions. Many participants expressed increased confidence in adopting technology, with 72% of participants reporting that they felt more capable of digitally managing their business finances after training.

4. Community Feedback.

Qualitative feedback collected from participants indicated that the training modules were clear and the bilingual materials (Thai-English) facilitated understanding. However, several participants requested extended mentoring sessions to reinforce their skills and address the challenges in applying the tools independently.

### Discussion

These findings demonstrate that community education combined with training and technology simulation is an effective method for enhancing financial literacy and promoting technology adoption among small-scale entrepreneurs. The significant increase in test scores aligns with previous studies that highlight the effectiveness of financial education programs in improving knowledge and behavior (Lusardi et al., 2013).

Small business owners are more likely to adopt accounting technologies when training and hands-on demonstrations are provided. However, the lower continued usage rate (60%) highlights the challenges of a lack of digital infrastructure and limited technical skills remain barriers to sustained adoption in developing countries.

In terms of community impact, the increase in participant confidence reflects the role of experiential learning approaches, which emphasize hands-on practice and problem-solving. This result resonates with Kolb's experiential learning theory

Furthermore, feedback requesting longer mentoring aligns with prior evidence that short-term interventions alone are insufficient to ensure sustainable changes in behavior (Bruhn et al., 2011). This suggests that future programs should incorporate follow-up coaching, continuous monitoring, and partnerships with local organizations to ensure long-term adoption and impact.

Overall, this study contributes to the literature on financial literacy and digital adoption by showing the following:

1. Community-based interventions can significantly improve knowledge and skills.
2. Adoption of digital financial tools requires not only training but also ongoing support.

The cultural and contextual adaptation of materials (e.g., bilingual modules and locally relevant case studies) plays a crucial role in the effectiveness of financial literacy programs.



## CONCLUSION

The findings of this study provide clear evidence that the implementation of community-based financial literacy training supported by digital tools has a significant impact on strengthening the financial management skills of OTOP entrepreneurs in Bangprong Subdistrict, Bangkok, Thailand. The research objective is to evaluate the effectiveness of integrating digital tools into financial management training for small-scale entrepreneurs. The training resulted in substantial improvements in the participants' financial literacy scores, higher adoption rates of digital financial tools, and increased confidence in applying financial knowledge to their businesses. These outcomes support the initial hypothesis that financial education combined with technology simulation enhances both knowledge of and behavioral intention toward digital adoption.

The results also highlight the importance of practical, hands-on and context-specific approaches such as bilingual learning modules and locally relevant case examples. However, the study further reveals that while training successfully initiates adoption, the sustained use of digital tools is still limited by infrastructure challenges, digital readiness, and the need for continuous guidance. Thus, the novelty of this study lies in demonstrating that a short-term, community-oriented intervention can create measurable improvements in knowledge and behavior, but sustained adoption requires long-term institutional support and follow-up mentoring. Several recommendations can be made based on these findings. First, community services and similar financial literacy initiatives should be designed as continuous programs rather than one-time interventions. Extended mentoring, coaching, and peer-to-peer support networks should be provided to ensure that participants maintain and further develop their digital financial management practices. Second, collaboration between universities, local governments, and financial institutions is crucial to expand access to infrastructure, such as affordable Internet and devices, which remain barriers for some entrepreneurs. Third, future programs should explore integrating mobile applications that are already popular among Thai entrepreneurs, such as Line Official Account, Facebook Marketplace, or local digital wallets, to make adoption more popular, seamless and relevant to their daily business practices.

Future research should conduct longitudinal studies to assess the sustainability of digital adoption over time and its actual effect on financial performance indicators such as profitability, cost efficiency, and access to external financing. Comparative studies across different regions in Thailand or neighboring ASEAN countries could also provide deeper insights into the cultural and structural factors influencing digital adoption among micro and small enterprises. By addressing these aspects, future interventions can contribute more effectively to strengthening financial inclusion and supporting OTOP entrepreneurs' resilience in the digital era.

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### Ethical Compliance

All procedures performed in this study involving human participants were conducted in accordance with the ethical standards of the institutional research committee of Universitas Komputer Indonesia and complied with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. Participation in this community service program was voluntary and informed consent was obtained from all participants prior to data collection and training activities. Confidentiality and anonymity of participants were strictly maintained throughout the study.

### Data Access Statement

Data supporting the findings of this study, including pre-test and post-test results, observational records, and participant feedback, are not publicly available because of privacy and confidentiality considerations involving human participants. The datasets are available from the corresponding author upon request. Access to data will be granted for academic purposes only and in accordance with ethical approval and institutional guidelines.

### Conflict of Interest declaration

The authors declare no conflicts of interest. The research was conducted independently, and the results were not influenced by any personal or financial relationships that could be construed as potential

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