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# Breaking tax stigma through financial literacy among rural start-up entrepreneurs in Indonesia

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**ABSTRACT**

**Purpose:** to examine the role of integrated financial literacy in reducing tax stigma and strengthening tax awareness among rural start-up entrepreneurs in Indonesia by improving financial management, bookkeeping practices, tax literacy, and business formalization readiness.
**Method:** this study employed a participatory action research design with a descriptive qualitative approach involving 50 rural start-up entrepreneurs in Kedungotok Village, Indonesia. Data were collected through field observations, semi-structured interviews, documentation, and participatory mentoring, and were analyzed using thematic analysis supported by descriptive statistics.
**Findings:** integrated financial literacy significantly improved participants' bookkeeping practices, tax literacy, and awareness of business legality while reducing negative perceptions toward taxation. The intervention also increased entrepreneurs' confidence in managing financial records, understanding tax obligations, and participating voluntarily in the formal taxation system, demonstrating the potential of financial literacy to support sustainable business formalization in rural areas.
**Implications:** integrated financial literacy can reduce tax stigma and support voluntary tax compliance among rural entrepreneurs, guiding the development of effective financial and tax education programs.
**Originality:** by integrating financial literacy and behavioral taxation perspectives to explain how financial education reduces tax stigma among rural start-up entrepreneurs.



## Introduction

Entrepreneurship has become one of the primary drivers of economic development, particularly in rural areas where business creation contributes to income diversification, employment generation, and local economic resilience (Shao et al., 2024). Alongside business and financial management capabilities, entrepreneurs are increasingly expected to possess sufficient knowledge of regulatory compliance, including taxation, as an integral component of sustainable business development (Babajide et al., 2023; Skandalis & Skandali, 2025). Tax compliance is no longer viewed solely as a legal obligation but also as an important indicator of business credibility, enabling entrepreneurs to access formal financing, government assistance programs, broader markets, and strategic partnerships (Aulia et al., 2022; Belahouaoui & Attak, 2024; Scarpa & Signori, 2023). Consequently, strengthening tax literacy among rural start-up entrepreneurs has become an essential prerequisite for promoting inclusive entrepreneurship and supporting the transition of informal businesses into the formal economy (Peter & Orser, 2024).

Despite these expectations, many rural start-up entrepreneurs continue to perceive taxation as a financial burden rather than a business-supporting instrument. This negative perception is reinforced by limited financial literacy, insufficient understanding of tax regulations, administrative complexity, and concerns regarding compliance costs and potential sanctions (Hasan et al., 2024; Mohammed & Tangl, 2023; Musah et al., 2026) Although the Indonesian government has introduced various tax incentives and simplified tax schemes for micro and small enterprises, including preferential tax rates and turnover thresholds, these facilities remain underutilized because many entrepreneurs lack practical knowledge regarding tax registration, bookkeeping, calculation, and reporting procedures (Judijanto, 2024; Satyadini & Rosid, 2024). As a result, tax stigma continues to discourage business formalization and weakens entrepreneurs' readiness to expand their businesses sustainably.

Previous studies have consistently demonstrated that financial literacy, tax education, bookkeeping training, and business legality programs positively influence entrepreneurial sustainability and tax compliance (Asmara, 2026; Babajide et al., 2023; Nurani et al., 2025; Pahlevi & Safitri, 2023; Santosa et al., 2025). Other studies have examined psychological barriers toward taxation, digital tax literacy, and the effectiveness of administrative assistance for micro and small enterprises (Handarini et al., 2026; Mapuasari et al., 2023; Siregar & Tarigan, 2026). Nevertheless, the existing literature has predominantly investigated these issues independently, focusing on financial literacy, tax compliance, or business legalization. Limited attention has been devoted to understanding how financial literacy can serve as a strategic mechanism to reduce tax stigma among rural start-up entrepreneurs, particularly through an integrated approach that combines financial education, bookkeeping practices, tax literacy, and awareness-building. This study addresses this research gap by proposing an integrated financial literacy framework that emphasizes both technical competency and psychological transformation toward taxation, thereby offering a more comprehensive perspective than previous studies.

Based on these considerations, this study aims to examine how financial literacy can reduce tax stigma and strengthen tax awareness among rural start-up entrepreneurs in Indonesia. Specifically, the study investigates the role of integrated financial literacy, including financial recordkeeping, tax education, business legalization awareness, and practical mentoring, in improving entrepreneurs' understanding of tax obligations and encouraging voluntary tax compliance. By emphasizing behavioral change rather than merely procedural knowledge, this study seeks to explain how financial literacy contributes to the development of sustainable and legally compliant entrepreneurial practices. This research is significant because improving tax literacy among rural entrepreneurs is essential for expanding the formal business sector, enhancing tax compliance, and supporting inclusive economic development in

Indonesia. The findings are expected to contribute theoretically by extending the literature on entrepreneurial financial literacy and tax psychology through the integration of behavioral and financial perspectives. In practice, the study provides evidence-based recommendations for policymakers, tax authorities, universities, and business development institutions to design more effective financial literacy and tax education programs tailored to the characteristics of rural start-up entrepreneurs. Ultimately, reducing tax stigma through financial literacy is expected to strengthen entrepreneurial competitiveness, improve regulatory compliance, and foster sustainable rural economic development.

## Literature review

### *Theory of planned behavior (TPB)*

The theory of planned behavior (TPB), proposed by Ajzen (1991), is one of the most widely applied behavioral theories for explaining individuals' intentions and actual behavior. According to TPB, an individual's behavior is determined by behavioral intention, which is influenced by three principal components: attitude toward the behavior, subjective norms, and perceived behavioral control. Attitude reflects an individual's positive or negative evaluation of performing a particular behavior. Subjective norms refer to the perceived social pressure from significant others to perform or avoid a behavior, while perceived behavioral control refers to an individual's perception of the ease or difficulty of performing that behavior. In the context of taxation, TPB explains that entrepreneurs are more likely to comply with tax obligations when they possess positive attitudes toward taxation, perceive social support for compliance, and feel capable of fulfilling tax-related administrative requirements. Financial literacy can strengthen all three TPB components by improving entrepreneurs' understanding of taxation, increasing confidence in managing tax administration, and encouraging positive perceptions regarding the benefits of tax compliance. Consequently, higher financial literacy is expected to reduce tax stigma and promote voluntary tax compliance among rural start-up entrepreneurs.

### *Behavioral taxation theory*

Behavioral taxation theory argues that taxpayers' compliance is influenced not only by economic calculations but also by psychological, social, and behavioral factors (Alm & Kasper, 2023; Anjarwi et al., 2024). Traditional economic theories assume that taxpayers make rational decisions based on potential gains and penalties. However, behavioral taxation emphasizes that taxpayers' perceptions, emotions, trust in government, fairness, and moral values significantly influence tax compliance decisions. One important psychological construct within this perspective is tax stigma, which describes negative perceptions and emotional responses toward taxation. Entrepreneurs who perceive taxation as complicated, expensive, or threatening are more likely to avoid tax registration and reporting, even when simplified tax regulations are available (Saptono et al., 2024). Therefore, educational interventions that improve financial literacy and tax understanding are expected to modify these perceptions and encourage more positive behavioral responses toward taxation.

### *Financial literacy*

Financial literacy refers to the knowledge, skills, confidence, and attitudes required to make effective financial decisions that improve individual and business financial well-being (Anshika & Singla, 2022). For entrepreneurs, financial literacy encompasses financial planning, budgeting, bookkeeping, cash flow management, financing options, investment decisions, and regulatory compliance. Financial literacy has become one of the most important determinants of entrepreneurial success because entrepreneurs are responsible for managing business finances independently. Entrepreneurs possessing higher financial literacy generally demonstrate better financial planning, improved business performance, stronger financial resilience, and greater ability to comply with financial regulations (Elbanna et al., 2025; Pahlevi & Safitri, 2023). In rural areas, financial literacy remains relatively limited due to restricted access to education, financial institutions, and business mentoring. Consequently, many rural entrepreneurs continue to operate their businesses using informal financial management practices without systematic bookkeeping or financial reporting. Such conditions increase financial uncertainty and reduce entrepreneurs' readiness to comply with taxation requirements.

*Tax literacy*

Tax literacy represents a specific dimension of financial literacy that focuses on taxpayers' understanding of taxation principles, tax regulations, administrative procedures, taxpayer rights and obligations, and the role of taxation in national development. Tax literacy also encompasses practical competencies in tax registration, tax calculation, payment, reporting, and the use of digital taxation systems. Santosa et al. (2025) argue that tax literacy positively influences voluntary tax compliance because taxpayers who understand taxation perceive tax obligations as manageable rather than burdensome. Likewise, Judijanto (2024) explains that the Indonesian government has simplified taxation for micro and small enterprises through preferential tax rates and administrative incentives. Nevertheless, these policy benefits cannot be fully realized unless entrepreneurs possess sufficient tax literacy. Accordingly, tax literacy serves not only as technical knowledge but also as a behavioral mechanism shaping entrepreneurs' confidence and willingness to participate in the formal taxation system.

*Tax stigma*

Tax stigma refers to persistent negative perceptions toward taxation that discourage taxpayers from fulfilling their tax obligations (Anjarwi et al., 2024). Unlike actual tax burdens, tax stigma arises primarily from subjective beliefs that taxation reduces business profitability, involves excessive bureaucracy, creates administrative complexity, or increases financial risks (Mohammed & Tangl, 2023). Behavioral taxation literature suggests that tax stigma develops through limited knowledge, misinformation, previous negative experiences, and social interactions within entrepreneurial communities (Williamson et al., 2024). Entrepreneurs with insufficient understanding frequently overestimate tax obligations while underestimating the benefits associated with business formalization and tax compliance. Among rural start-up entrepreneurs, tax stigma often manifests as reluctance to register businesses, avoidance of tax reporting, and fear of interacting with tax authorities. Such perceptions hinder business formalization and reduce opportunities to access financial institutions, government support programs, and broader commercial markets.

*Rural start-up entrepreneurs*

Rural start-up entrepreneurs are individuals who establish new business ventures in rural communities, generally operating at the micro- or small-enterprise level (Imanuella et al., 2025). These entrepreneurs play an important role in stimulating local economic growth, generating employment opportunities, and reducing regional income disparities (Raja et al., 2022). Despite their economic importance, rural entrepreneurs frequently encounter structural constraints including limited business education, inadequate financial capability, weak institutional support, and restricted access to digital technology. Previous studies indicate that many rural entrepreneurs continue to maintain manual financial records or no bookkeeping at all, making it difficult to evaluate business performance and fulfill taxation requirements (Chimucheka et al., 2025). These characteristics make rural entrepreneurs particularly vulnerable to developing tax stigma, as insufficient financial capacity amplifies perceptions of taxation as a complex administrative burden.

**Method**

This study employed a participatory action research (PAR) design with a descriptive qualitative approach to examine how integrated financial literacy helps reduce tax stigma among rural start-up entrepreneurs in Indonesia. Participatory action research was selected because it allows researchers to investigate behavioral change while simultaneously implementing educational interventions and observing participants' responses throughout the learning process. The study focused on rural entrepreneurs in Kedungotok village, Tembelang sub-district, Jombang regency, East Java province, Indonesia, where many newly established micro and small businesses continue to operate informally and possess limited financial and tax literacy.

The participants consisted of 50 rural start-up entrepreneurs selected through purposive sampling based on three criteria: (1) operating a newly established micro or small business in the village, (2) possessing limited experience in financial bookkeeping and tax administration, and (3) voluntarily participating in the financial literacy program. Village officials also participated during the preliminary assessment to provide contextual information regarding local entrepreneurial conditions and business formalization initiatives.

The research was conducted through five sequential stages. The first stage involved a preliminary assessment, during which field observations and semi-structured interviews were conducted to identify participants' existing financial management practices, bookkeeping habits, understanding of taxation, business legality status, and perceptions toward tax obligations. Particular attention was given to identifying psychological barriers associated with taxation, including fear of tax administration, perceived compliance costs, and negative beliefs about taxation's impact on business development. The findings from this assessment were used to design educational materials and mentoring activities that addressed participants' specific needs.

The second stage comprised the preparation of the intervention program. Educational modules were developed covering basic financial literacy, simple bookkeeping techniques, business legality, tax obligations for micro and small enterprises, and digital tax administration. Learning materials were designed using practical examples relevant to rural entrepreneurs. Supporting instruments, including smartphone-based bookkeeping applications and simplified tax reporting simulations, were also prepared to facilitate experiential learning throughout the intervention.

The third stage involved implementing integrated financial literacy education through interactive workshops and group discussions. The educational sessions emphasized the importance of separating personal and business finances, maintaining systematic financial records, understanding government tax incentives for micro and small enterprises, recognizing business registration procedures, and developing awareness of taxation as an instrument for business sustainability rather than merely a legal obligation. To reinforce learning, digital educational materials, including tax literacy pamphlets, were distributed via WhatsApp groups and village communication networks.

The fourth stage involved practical mentoring, during which participants received individual and small-group assistance in applying the knowledge obtained during the educational sessions. Researchers guided participants in preparing simple cash records, separating business and household transactions, compiling basic financial statements, estimating taxable income, and practicing tax calculation and reporting procedures using simplified digital simulations. The mentoring process emphasized active participation and problem-solving, allowing participants to discuss technical and psychological challenges encountered during bookkeeping and tax administration.

The final stage involved program evaluation to assess changes in participants' financial literacy and perceptions of taxation following the intervention. Data were collected through observations, interviews, documentation of participants' bookkeeping practices, and comparison of conditions before and after the intervention. The evaluation focused on four indicators: (1) improvement in financial recordkeeping practices, (2) increased understanding of tax obligations and business legality, (3) reduction of negative tax stigma, and (4) participants' confidence in independently performing bookkeeping and basic tax administration. The qualitative data were analyzed using thematic analysis, involving data reduction, coding, categorization, and interpretation to identify recurring themes related to financial literacy, behavioral change, and tax awareness.

## Results and discussion

The study involved 50 rural start-up entrepreneurs operating micro- and small-scale businesses in Kedungotok village, Indonesia. The participants represented various business sectors, including food processing, retail trade, home industries, and agricultural-based enterprises. Prior to the implementation of the financial literacy intervention, a preliminary assessment was conducted through field observations, interviews, and documentation to identify participants' financial management practices, tax literacy, and perceptions toward taxation.

The preliminary assessment revealed that most participants had limited experience in systematic financial management and tax administration. Financial transactions were generally recorded informally, with business income and household expenditures being combined in the same records. Furthermore, many participants had not formally registered their businesses and had only limited knowledge of taxation policies applicable to micro and small enterprises. Negative perceptions toward taxation were also commonly identified, particularly concerns regarding administrative complexity, compliance costs, and fear of sanctions. The initial conditions of the participants are summarized in Table 1.

**Table 1 initial profile and financial–tax literacy conditions of rural start-up entrepreneurs**

| Nu. | Evaluation aspect | Initial condition | Implication for business development |
|---|---|---|---|
| 1 | Financial recordkeeping | Personal and business finances were generally combined, and systematic bookkeeping had not been implemented. | Business performance and net profit could not be accurately measured. |

| Nu. | Evaluation aspect | Initial condition | Implication for business development |
|---|---|---|---|
| 2 | Business legality and tax compliance | Most participants had not completed business registration and demonstrated limited understanding of tax obligations and available incentives. | Limited access to formal financing, government assistance programs, and broader business opportunities. |
| 3 | Perception toward taxation | Participants commonly perceived taxation as financially burdensome and administratively complicated. | Reluctance to formalize businesses and participate in the taxation system. |

Source: primary data, processed

Following the preliminary assessment, participants attended a series of integrated financial literacy activities, including financial education sessions, tax literacy workshops, bookkeeping training, and practical mentoring. The educational sessions introduced basic financial management principles, separation of personal and business finances, simple bookkeeping techniques, business legality, government tax incentives, and simplified taxation procedures for micro and small enterprises. Practical demonstrations, interactive discussions, digital learning materials, and smartphone-based bookkeeping applications supported the learning process.

During the mentoring stage, participants practiced preparing daily cash records, classifying business transactions, calculating business turnover, and simulating basic tax calculations using simplified reporting formats. Individual guidance was also provided to help participants understand business registration procedures and digital tax administration. Observations throughout the mentoring sessions indicated increasing participant engagement and confidence in managing financial records independently.

After the intervention, an evaluation was conducted through observations, interviews, and documentation of participants' bookkeeping practices. Overall, the findings demonstrated improvements in participants' financial management skills and tax awareness. Most participants were able to prepare basic financial records independently and demonstrated a greater understanding of the relationships among financial management, business legality, and taxation. Participants also reported reduced concerns regarding taxation after understanding the simplified taxation schemes and government incentives available for micro and small enterprises. The post-intervention evaluation is summarized in Table 2.

**Table 2 post-intervention outcomes of the financial literacy program**

| Evaluation indicator | Research findings | Remaining challenges |
|---|---|---|
| Independent bookkeeping | Most participants were able to prepare simple cash records and separate business transactions from household finances. | Maintaining consistency in daily financial recording remained challenging for some participants. |
| Financial literacy | Participants demonstrated improved understanding of budgeting, bookkeeping, and financial planning for business operations. | Continued mentoring is required to strengthen long-term financial management practices. |
| Tax literacy | Participants showed increased understanding of taxpayer obligations, tax incentives, turnover thresholds, and simplified reporting procedures. | Some participants still experienced difficulties in understanding digital tax administration. |
| Tax stigma | Negative perceptions toward taxation decreased after participants understood the practical benefits of business | A small number of participants remained concerned about the complexity of online tax reporting |

| Evaluation indicator | Research findings | Remaining challenges |
|---|---|---|
| | formalization and government tax incentives. | procedures. |
| Business formalization awareness | Participants expressed greater willingness to register their businesses and participate in the formal economic sector. | Further assistance is required during the implementation of formal registration procedures. |

Source: primary data, processed

Overall, the research findings indicate positive changes in participants' financial literacy and tax-related perceptions following the intervention. The integrated educational and mentoring activities improved participants' understanding of financial management, encouraged the adoption of basic bookkeeping practices, and strengthened awareness regarding business legality and taxation. Although several technical challenges remain, particularly regarding digital tax administration and the consistency of financial recordkeeping, the findings demonstrate that integrated financial literacy interventions have the potential to support behavioral change among rural start-up entrepreneurs and to promote greater readiness to participate in the formal taxation system.

*Discussion*

The findings demonstrate that integrated financial literacy serves not only to improve entrepreneurs' technical financial competencies but also to transform negative perceptions of taxation. Prior to the intervention, most participants exhibited limited financial management practices, characterized by the absence of systematic bookkeeping, the mixing of personal and business finances, and an inadequate understanding of taxation and business law. These conditions contributed to a perception that taxation represented an additional financial burden rather than an essential component of sustainable business management. Following the implementation of financial literacy education and practical mentoring, participants demonstrated noticeable improvements in bookkeeping practices, tax knowledge, and willingness to formalize their businesses. These findings suggest that enhancing financial capability simultaneously strengthens entrepreneurs' understanding of taxation and reduces psychological barriers associated with tax compliance.

The observed behavioral changes are consistent with the theory of planned behavior (TPB) proposed by Ajzen (1991), which argues that behavior is primarily determined by behavioral intention, and attitudes, subjective norms, and perceived behavioral control influence that intention. The financial literacy intervention influenced all three components of TPB. First, the educational sessions improved participants' attitudes toward taxation by framing taxes as an instrument that supports business sustainability rather than merely a mandatory financial obligation. Many participants initially viewed taxes as reducing business profitability; however, after understanding government incentives, tax-free turnover thresholds, and the relationship between taxation and business credibility, participants expressed more positive perceptions regarding tax compliance. This shift illustrates that improving knowledge can reshape entrepreneurs' evaluations of taxation, shifting it from a negative obligation to a strategic business investment.

Second, the intervention strengthened perceived behavioral control, another key component of TPB. Before participating in the program, entrepreneurs generally believed that bookkeeping and tax reporting were administratively complicated and beyond their capabilities. Practical mentoring, bookkeeping exercises, and simplified tax reporting simulations substantially increased participants' confidence in managing these administrative processes independently. The ability to separate personal and business finances, prepare daily cash records, and perform basic tax calculations reduced uncertainty regarding tax administration. According to TPB, individuals are more likely to engage in a behavior when they believe they have sufficient capability to do so. Therefore, the improvement in participants' confidence provides empirical evidence that financial literacy enhances perceived behavioral control, which subsequently increases voluntary tax compliance intentions.

The intervention also contributed indirectly to the formation of more supportive subjective norms. Educational activities were conducted collectively through workshops, discussions, and mentoring sessions involving fellow entrepreneurs and village stakeholders. Such collaborative learning environments encouraged participants to observe peers who were beginning to adopt proper bookkeeping practices and consider business formalization. Social interaction during mentoring created a shared perception that tax compliance constitutes a normal and beneficial entrepreneurial practice rather than an exceptional administrative burden. This finding supports TPB by demonstrating that behavioral intentions are strengthened not only through individual knowledge but also through social influence and community expectations.

The present findings also strongly support Behavioral Taxation Theory, which emphasizes that tax compliance is shaped not solely by economic considerations but also by psychological and behavioral factors (Alm & Kasper, 2023; Anjarwi et al., 2024). Prior to the intervention, participants' reluctance to comply with taxation was primarily associated with fear, uncertainty, and misconceptions regarding administrative complexity rather than with actual tax liabilities. Most entrepreneurs lacked accurate information concerning simplified taxation schemes for micro and small enterprises and therefore overestimated the financial consequences of taxation. After receiving financial literacy education, participants reported that taxation appeared considerably more understandable and manageable than previously assumed. This finding indicates that tax stigma originates primarily from information asymmetry and psychological perceptions rather than objective financial burdens.

The reduction in tax stigma observed in this study further demonstrates that psychological barriers can be addressed through educational interventions that emphasize practical knowledge rather than legal enforcement. Behavioral taxation literature argues that fear of taxation often arises when taxpayers perceive administrative procedures as uncertain, bureaucratic, and risky. The mentoring activities implemented in this study reduced these perceptions by allowing participants to experience bookkeeping and tax calculation directly under facilitator guidance. Consequently, participants no longer perceived taxation as an unfamiliar or intimidating administrative process. This finding expands the behavioral taxation perspective by illustrating that experiential learning represents an effective strategy for reducing tax stigma among rural entrepreneurs.

The improvement in participants' bookkeeping practices represents another important contribution of this study. Initially, most participants were unable to distinguish between business and household finances, making it difficult to accurately determine business profitability. After receiving practical bookkeeping training, most entrepreneurs successfully prepared simple financial records and demonstrated greater consistency in documenting daily transactions. These findings are consistent with OECD (2020), which identifies bookkeeping as one of the fundamental dimensions of entrepreneurial financial literacy. Financial literacy extends beyond theoretical knowledge and includes practical competencies that enable entrepreneurs to make informed financial decisions. The ability to maintain financial records provides entrepreneurs with more accurate information regarding business performance while simultaneously facilitating tax calculation and reporting.

These findings also corroborate previous empirical studies demonstrating the positive relationship between financial literacy and entrepreneurial sustainability. Pahlevi & Safitri (2023) reported that financial literacy significantly improves the sustainability of rural entrepreneurship by strengthening financial management capabilities. Similarly, Elbanna et al. (2025) concluded that entrepreneurs possessing stronger accounting knowledge are more likely to prepare systematic bookkeeping records. The present study extends these findings by demonstrating that improved bookkeeping not only supports business performance but also functions as an important foundation for reducing tax stigma. Entrepreneurs who maintain reliable financial records are better able to estimate taxable income accurately, reducing uncertainty about tax obligations.

Another important finding concerns participants' increased awareness of business legality following the intervention. Before the educational program, many entrepreneurs considered business registration and taxation as separate administrative obligations with limited practical value. Following the intervention, participants increasingly recognized that business legality, financial recordkeeping, and taxation are interconnected elements supporting long-term business growth. This finding is consistent with Maduku & Zerihun (2022), who argue that business formalization enhances entrepreneurs' opportunities to obtain formal financing, government assistance, and market expansion. Likewise, Wulandari & Herwastoeti (2025) found that business registration represents an important initial step toward improving legal compliance among micro-enterprises. The present findings suggest that financial literacy strengthens entrepreneurs' understanding of this integrated relationship, thereby encouraging a greater willingness to participate in the formal economy.

The effectiveness of practical mentoring observed in this study also supports previous studies that emphasize the importance of continuous assistance over one-time educational activities. Nurani et al. (2025) reported that fiscal education programs that combine the dissemination of regulations with practical guidance are more effective at reducing negative perceptions of taxation than conventional lectures. Similarly, Asmara (2026) concluded that practice-based tax literacy training significantly improves entrepreneurs' compliance with updated fiscal regulations. The present study reinforces these conclusions by demonstrating that mentoring allows participants to apply theoretical knowledge immediately, thereby increasing confidence and reducing psychological resistance toward taxation.

The findings further confirm prior evidence on the role of digital financial literacy in supporting entrepreneurial development. During the intervention, participants utilized smartphone-based bookkeeping applications and simplified digital tax reporting simulations. Although several participants continued to experience difficulties using digital tax administration systems, most reported that digital tools simplified daily financial recording compared with manual bookkeeping. This finding is consistent with Amelia et al. (2026) who found that smartphone-based financial applications improve bookkeeping practices among novice entrepreneurs. Likewise, Handarini et al. (2026) argued that digital tax literacy strengthens entrepreneurs' readiness to utilize electronic taxation systems. Nevertheless, the remaining challenges identified in this study indicate that digital literacy among rural entrepreneurs remains uneven, suggesting that long-term mentoring remains necessary.

Despite these positive outcomes, the study also identified several challenges requiring further attention. Some participants continued to experience difficulties maintaining consistent daily bookkeeping despite understanding its importance. Others remained hesitant to use online tax reporting systems because of limited digital skills and concerns regarding administrative errors. These findings suggest that financial literacy interventions should be viewed as a continuous developmental process rather than a single educational event. Sustainable mentoring, periodic refresher training, and village-based business advisory services may therefore be required to ensure that behavioral changes become permanent entrepreneurial practices.

Overall, the present study contributes to the literature by demonstrating that financial literacy functions through two complementary mechanisms. First, it improves entrepreneurs' technical competencies in bookkeeping, financial management, and tax administration. Second, and more importantly, it transforms entrepreneurs' psychological perceptions toward taxation by reducing fear, increasing confidence, and strengthening awareness of taxation as a strategic component of business sustainability. Unlike previous studies that examined financial literacy, tax compliance, or business legality separately, this study provides evidence that integrating these components within a single educational framework creates mutually reinforcing effects that facilitate both behavioral change and business formalization among rural start-up entrepreneurs. These findings support the proposition that breaking tax stigma requires not only regulatory simplification but also comprehensive financial literacy interventions that address both the technical and psychological dimensions of entrepreneurial behavior.

## Conclusions

This study demonstrates that integrated financial literacy plays a significant role in reducing tax stigma among rural start-up entrepreneurs in Indonesia. The findings indicate that financial literacy interventions combining financial education, bookkeeping training, tax literacy, business legality awareness, and practical mentoring successfully improved participants' financial management competencies and understanding of tax obligations. More importantly, the intervention contributed to positive behavioral changes by transforming participants' perceptions of taxation from a financial burden into a strategic instrument that supports business sustainability and formalization. The results further confirm that strengthening financial literacy enhances entrepreneurs' confidence in maintaining financial records, understanding simplified tax regulations, and participating voluntarily in the formal taxation system. These findings support both the theory of planned behavior and behavioral taxation theory, demonstrating that improvements in knowledge and practical capability can influence attitudes, perceived behavioral control, and ultimately tax compliance intentions.

This study contributes theoretically by extending the literature on entrepreneurial financial literacy by integrating behavioral and financial perspectives to explain tax stigma among rural entrepreneurs. Unlike previous studies that primarily examined financial literacy, tax compliance, or business legality separately, this research demonstrates that these dimensions interact to shape entrepreneurs' readiness to participate in the formal economy. Practically, the findings provide useful implications for policymakers, tax authorities, universities, and business development institutions in designing financial literacy programs that emphasize not only technical tax knowledge but also psychological readiness and confidence in fulfilling tax obligations.

Nevertheless, this study has several limitations. The research was conducted in a single rural area with a relatively small number of participants, limiting the generalizability of the findings to other geographical contexts. In addition, the study primarily employed a qualitative participatory approach and evaluated short-term behavioral changes immediately following the intervention, making it difficult to assess the long-term sustainability of improvements in tax compliance and financial management practices.

Future research should expand the geographical coverage by involving rural entrepreneurs from different regions of Indonesia to examine whether similar patterns emerge across diverse socioeconomic and cultural settings. Researchers are also encouraged to employ longitudinal designs to evaluate the long-term effects of integrated financial literacy interventions on tax compliance, business formalization, and entrepreneurial performance. Furthermore, future studies may incorporate quantitative approaches or mixed-method designs to test causal relationships among financial literacy, tax stigma, entrepreneurial behavior, and voluntary tax compliance. Additional variables, such as digital financial literacy, trust in tax authorities, entrepreneurial experience, government support, and institutional quality, may also be incorporated to develop a more comprehensive understanding of the factors influencing tax behavior among rural start-up entrepreneurs.

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