Strategies to Increase the Intention to Comply with Halal Certification among SMEs in Indonesia: A Theory of Planned Behavior Perspective

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Abstract. Halal certification has become a mandatory requirement in Indonesia following the enactment of Law No. 33 of 2014 and Government Regulation No. 39 of 2021, with an ambitious target of 10 million certified products initially set for October 2024. However, progress data as of August 2025 indicate that the target has not yet been achieved, largely due to persistent challenges among micro, small, and medium enterprises (SMEs), which account for 60% of national GDP and 97% of employment. This study aims to analyze the behavioral determinants of SMEs' intention to comply with halal certification, focusing on halal literacy, social influence, and perceived cost, and to formulate strategic interventions that enhance compliance readiness. A quantitative approach was employed, based on the Theory of Planned Behavior (TPB), using an online survey distributed to 268 SMEs across Indonesia. Data were analyzed with SmartPLS 4, while strategic recommendations were developed through SWOT, TOWS, and logic model analyses. The findings show that halal literacy and social influence significantly enhance intention to comply, while perceived cost, although a barrier, still demonstrates a positive effect when SMEs recognize long-term benefits. The study concludes that targeted interventions to strengthen literacy, reduce perceived costs, and leverage social influence are essential to increase SMEs' compliance intention, thereby supporting the development of Indonesia's halal ecosystem and improving global halal market competitiveness.

Keywords: Halal certification; TPB; SMEs; halal literacy; social influence; perceived cost; strategic interventions

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1 Introduction

The implementation of mandatory halal certification through Government Regulation No. 39 of 2021, which is derived from Law No. 33 of 2014, marks a significant milestone in strengthening the halal assurance system in Indonesia. This regulation requires all business actors, including micro, small, and medium enterprises (SMEs), to obtain halal certification for their products and services. The purpose of this policy is not only to protect Muslim consumers in fulfilling their religious obligations but also to enhance the competitiveness of Indonesian products in both domestic and international markets, where the demand for halal products continues to grow.

In line with this framework, the mandatory enforcement of halal certification is scheduled to be effective starting in October 2024. This timeline emphasizes the urgency for SMEs to prepare themselves to meet various requirements, ranging from compliance with halal standards and raw material traceability to process verification and documentation. While such obligations are expected to accelerate the broader development of the halal industry, they simultaneously present challenges, particularly for SMEs with limited resources and knowledge of the certification process. This situation highlights the necessity of continuous support, training, and facilitation from government bodies, halal certification agencies, and relevant stakeholders to ensure readiness across sectors.

Building upon this phased enforcement, the regulation further delineates the scope of mandatory halal certification by establishing three priority categories: food and beverages, raw materials and food additives, and slaughter products and services (Latif & Fatwa, 2025). The prioritization of these sectors is not arbitrary but reflects their central role in everyday consumption and their direct implications for public health and religious compliance. Food and beverages, as the largest contributor to consumer expenditure, stand at the forefront of halal assurance, while raw materials and additives are critical for ensuring the integrity of production chains. Similarly, slaughter products and services receive particular attention due to their sensitivity in terms of both ritual requirements and hygiene standards.

By structuring the implementation in this way, the Indonesian government demonstrates its intention to balance regulatory enforcement with the practical readiness of business actors. The phased obligation provides enterprises with adequate time to adapt while simultaneously allowing certification bodies and relevant institutions to strengthen their infrastructure, human capital, and audit mechanisms. Scholars further emphasize that such a regulatory approach is essential to prevent potential economic disruption, while at the same time fostering long-term compliance and sustaining consumer trust (Ajzen, 1991; BPJPH, 2021; LPPOM MUI, 2022). Through this strategic framework, the halal certification mandate can gradually expand its scope, laying the groundwork for more comprehensive industry-wide application in the years ahead.

SMEs contribute approximately 60% to the national GDP and account for 97% of total employment; however, they continue to encounter significant challenges in complying with halal certification requirements (Harahap & Tambunan, 2022). Despite their substantial role in sustaining Indonesia's economic growth, many SMEs operate with limited financial capacity, inadequate human resources, and insufficient understanding of regulatory frameworks. These constraints often hinder their ability to fulfill the procedural and technical requirements of halal certification, such as documentation, traceability systems, and conformity to production standards. Consequently, while SMEs are recognized as the backbone of the national economy, their struggles in meeting halal obligations reveal structural gaps that must be addressed to ensure the success of mandatory implementation.

In addition to financial and technical barriers, SMEs also face challenges related to awareness and literacy regarding the significance of halal certification in enhancing product competitiveness. Research indicates that a considerable number of SMEs perceive halal certification as an administrative burden rather than as a strategic investment to expand their market reach (Harahap & Tambunan, 2022; BPJPH, 2021). This perception reflects not only a lack of knowledge but also the absence of adequate socialization and capacity-building programs that could bridge the gap between regulation and practice. The situation underscores the need for integrated efforts involving government institutions, halal certification bodies, and industry associations to strengthen SMEs' readiness. Such interventions would allow SMEs to not only comply with the certification mandate but also capitalize on the growing global demand for halal products as a means of long-term sustainability.

Based on the most recent update released by BPJPH on August 16, 2025, the progress of halal certification in Indonesia shows impressive growth but remains below the government's ambitious target of 10 million certified products by October 2024. The data reveal that a total of 9,043,742 products have been certified between 2019 and 2025, reflecting a significant increase of 1,333.58% since the digitalization of halal services began (BPJPH, 2025). Annual achievements demonstrate notable acceleration, with 708,904 certified products in 2022, rising to 2,474,043 in 2023, and 2,934,711 in 2024. However, as of mid-2025, only 2,421,836 additional certifications were recorded, indicating that despite this remarkable growth, the initial goal of 10 million halal-certified products has not yet been reached within the expected timeframe.

The August 16, 2025, report also highlights the institutional and structural dynamics of the halal ecosystem, particularly regarding inspection and supervision capacity. As of this update, Indonesia has 320 registered Halal Inspection Bodies (LPH) and 95,689 Halal Supervisors (P3H), supported by 1,668 halal auditors—an exponential increase compared to just 3 LPH and 102 auditors in 2021 (BPJPH, 2025). Nevertheless, the availability of auditors and institutional support remains insufficient to accommodate the overwhelming demand for certification, especially among SMEs that continue to face barriers such as limited resources, low awareness, and lack of technical capacity (Harahap & Tambunan, 2022). These conditions reveal why the certification trajectory, though accelerated by digitalization, still struggles to align with national targets, thereby reinforcing the urgency of devising more integrated strategies to bridge the gap between regulation and implementation.

Findings from previous studies indicate that this gap reflects the persistently low level of compliance among SMEs with mandatory halal certification. Despite the regulatory mandate and government facilitation, many SMEs continue to struggle with certification due to limited halal literacy, which affects their understanding of procedures and benefits, weak social influence from consumers and industry networks that should encourage compliance, and perceived costs, both financial and administrative, that discourage participation (Harahap & Tambunan, 2022; Latif & Fatwa, 2025). These challenges suggest that the issue is not merely technical but deeply rooted in behavioral, informational, and economic dimensions, thereby requiring a more comprehensive analytical framework. By applying the Theory of Planned Behavior (Ajzen, 1991), this research seeks to explain the determinants of SMEs' intention to comply, offering both theoretical contributions to halal studies and practical insights for policymakers aiming to accelerate halal certification in Indonesia.

2 Problem formulation

Considering these persistent barriers, it becomes essential to investigate how behavioral factors influence SMEs' intention to comply with halal certification. Previous studies have generally highlighted the structural and regulatory aspects of certification, yet limited research has explicitly examined the interplay of knowledge, normative pressures, and perceived barriers in shaping compliance intention within the Indonesian context (Harahap & Tambunan, 2022; Latif & Fatwa, 2025). Applying the Theory of Planned Behavior (Ajzen, 1991) as an analytical framework provides an opportunity to better understand how halal literacy, social influence, and perceived cost interact as determinants of SMEs' decision-making processes.
Accordingly, this study formulates the following research questions to guide the analysis:

- How do halal literacy, social influence, and perceived cost affect the intention of SMEs in Indonesia to comply with halal certification requirements?
- What strategic interventions can be formulated based on the TPB dimensions to enhance SMEs' intention to comply with halal certification in Indonesia?

3 Research Purposes

In line with the research questions previously outlined, this study aims to:

- Analyze the influence of halal literacy, social influence, and perceived cost on the intention of SMEs in Indonesia to comply with mandatory halal certification.
- Identify and formulate strategic interventions based on the dimensions of the *Theory of Planned Behavior* (TPB) to enhance SMEs' intention to comply with halal certification in Indonesia.

4. Methodology

Applied a quantitative research design grounded in the Theory of Planned Behavior (TPB) to examine the determinants of SMEs' intention to comply with halal certification. Primary data were collected using a structured online questionnaire distributed across various regions of Indonesia to capture the diversity of SMEs operating in mandatory halal sectors. The sampling criteria were defined to ensure relevance and rigor: respondents were required to represent SMEs with an annual turnover of less than 4.8 billion rupiah, have operated for more than one year, not yet possess halal certification, and be registered under the regular certification pathway. These criteria reflect the government's priority sectors and allow for a more accurate assessment of compliance intention within the context of regulatory enforcement (BPJPH, 2021
From this survey, a total of 268 valid responses were obtained, which met the minimum sample size requirements recommended for structural equation modeling (Hair, Hult, Ringle, & Sarstedt, 2017). The data were processed and analyzed using SmartPLS 4,

enabling the assessment of measurement and structural models through procedures such as reliability testing, validity assessment, and hypothesis testing. In order to complement the quantitative findings, the study further employed qualitative strategic tools, including SWOT analysis, TOWS matrix, and a logic model, to design practical recommendations. These tools provided a systematic framework for translating empirical results into actionable strategies that align with SMEs' behavioral constraints, institutional capacities, and the broader objectives of Indonesia's halal industry development (Weihrich, 1982; W.K. Kellogg Foundation, 2004).

5 Literature Review

The Theory of Planned Behavior (TPB), developed by Ajzen (1991), provides a robust framework for explaining and predicting human behavior across a variety of contexts. TPB posits that intention is the most proximal determinant of behavior, shaped by three key antecedents: attitude toward the behavior, subjective norms, and perceived behavioral control. Attitude reflects the individual's positive or negative evaluation of performing a specific behavior; subjective norms capture the perceived social pressures from significant others to engage or not engage in the behavior; while perceived behavioral control refers to the individual's perception of ease or difficulty in performing the behavior, closely related to the availability of resources and opportunities. The interaction of these constructs determines the strength of intention, which in turn influences the likelihood of actual behavior.

In the context of regulatory compliance, TPB has been widely recognized as a valuable tool for understanding why individuals or organizations choose to comply—or fail to comply—with mandated policies. Compliance is not only a matter of legal enforcement but also a function of psychological and social factors that shape intention. For instance, a business actor's positive attitude toward regulation, reinforced by social expectations and supported by perceived capacity to meet requirements, is more likely to translate into compliance behavior. Conversely, negative attitudes, weak normative influence, or perceptions of excessive cost and complexity may undermine intention, leading to non-compliance despite regulatory mandates. Thus, TPB offers a comprehensive framework to examine compliance as a behavioral phenomenon, rather than solely as a legal obligation.

Applications of TPB in the halal industry further demonstrate its relevance in examining compliance with halal certification and broader consumer behavior. Prior studies have applied TPB to investigate halal food consumption, purchasing intention, and certification adoption, consistently highlighting the roles of literacy, social influence, and perceived barriers (Alam & Sayuti, 2011; Mukhtar & Butt, 2012). In the case of halal certification among SMEs, attitude can be shaped by halal literacy and awareness of the benefits of certification, subjective norms by consumer demand and industry peer pressure, and perceived behavioral control by cost, time, and administrative resources. These constructs jointly determine SMEs' intention to comply with mandatory halal certification, making TPB an appropriate theoretical lens to explore behavioral determinants and to design strategic interventions for improving compliance.

Halal certification in Indonesia is mandated by Law No. 33 of 2014 and Government Regulation No. 39 of 2021, positioning it as a form of mandatory regulation rather than voluntary market differentiation. This legal framework requires all business actors, including micro, small, and medium enterprises (SMEs), to ensure that their products and services meet halal standards (BPJPH, 2021). In this sense, halal certification becomes an issue of compliance behavior, where firms are legally obliged to conform to regulatory requirements. Compliance in this context extends beyond the fulfillment of administrative procedures; it reflects the intersection of religious obligations, consumer protection, and state regulation. Scholars have emphasized that compliance behavior is shaped not only by external enforcement mechanisms but also by internal factors such as awareness, capacity, and willingness to comply (Tyler, 2006; Harahap & Tambunan, 2022).

Integrating the Theory of Planned Behavior (TPB) into the study of halal certification compliance provides a comprehensive framework to understand SMEs' *intention to comply*. According to TPB, intention is influenced by attitude, subjective norms, and perceived behavioral control (Ajzen, 1991). In the halal certification context, attitude is closely linked to halal literacy and awareness of the benefits of certification; subjective norms reflect the influence of consumers, communities, and industry peers; while perceived behavioral control is determined by cost, resources, and administrative capacity. Previous studies applying TPB in halal contexts, such as halal food consumption and certification adoption, have consistently shown that these constructs significantly shape behavioral intentions (Alam & Sayuti, 2011; Mukhtar & Butt, 2012). Thus, using TPB to frame halal compliance as a behavioral intention rather than merely a legal requirement allows for a more nuanced analysis of why SMEs either comply with or resist mandatory halal certification.

The legal foundation for halal certification in Indonesia is established under Law No. 33 of 2014 on Halal Product Assurance, which stipulates that all products circulating in the country must be halal-certified. This law is further operationalized through Government Regulation No. 39 of 2021, which outlines the stages of implementation, enforcement mechanisms, and the roles of government institutions in ensuring compliance (BPJPH, 2021). The government initially set a target of achieving 10 million halal-certified products by October 2024; however, as of August 2025, the goal had not yet been met, with certification numbers reaching approximately 9 million (BPJPH, 2025). This shortfall highlights the gap between regulatory ambition and actual compliance, raising questions about structural, institutional, and behavioral challenges within the halal ecosystem.

The implementation of halal certification in Indonesia is overseen by the Halal Product Assurance Organizing Agency (BPJPH) under the Ministry of Religious Affairs. Supporting institutions include the Assessment Institute for Foods, Drugs, and Cosmetics of the Indonesian Council of Ulama (LPPOM MUI), Halal Inspection Bodies (LPH), halal auditors, and Halal Supervisors (P3H). Collectively, these actors form the institutional backbone of halal governance, ensuring that certification processes meet both regulatory and religious standards. In recent years, the government has also strengthened its approach through digitalization initiatives, such as the SiHalal system and the Sehati program, which are designed to streamline certification procedures, increase transparency, and improve accessibility for SMEs across the archipelago (BPJPH, 2025; Susanto & Hidayat, 2023). While these institutional reforms have accelerated the certification process, capacity limitations remain a challenge in meeting the scale of demand.

Micro, small, and medium enterprises (SMEs) play a pivotal role in Indonesia's halal ecosystem, contributing approximately 60% to the national GDP and employing 97% of the workforce (Harahap & Tambunan, 2022). Despite their economic significance, SMEs face considerable barriers in obtaining halal certification. These challenges include limited financial resources to cover certification costs, low levels of halal literacy that hinder understanding of procedures, and inadequate human resources to manage documentation and compliance requirements (Latif & Fatwa, 2025). As a result, SMEs often perceive halal certification as a burden rather than an opportunity for market expansion. Addressing these constraints is critical, as SMEs not only form the backbone of the domestic economy but also represent a strategic sector in Indonesia's aspiration to become a global halal hub.

Halal literacy refers to the knowledge, understanding, and awareness of business actors regarding halal concepts, processes, and certification requirements. It encompasses both cognitive and affective dimensions that shape how entrepreneurs perceive the value of halal certification (Ahmad et al., 2018). Within the framework of the Theory of Planned Behavior (TPB), halal literacy is closely related to *attitude toward behavior*, as higher levels of literacy generally foster positive evaluations toward compliance with halal certification (Ajzen, 1991). SMEs with adequate halal literacy are more likely to recognize certification as an opportunity for market expansion and consumer trust, rather than merely a regulatory burden.

Previous studies highlight the importance of halal literacy in shaping compliance behavior. Alam and Sayuti (2011) found that consumers' halal literacy significantly influenced their purchasing decisions, suggesting a similar effect for SMEs in certification adoption. Ahmad et al. (2018) emphasized that awareness and knowledge about halal regulations correlate with higher levels of compliance intention among businesses. However, in the Indonesian context, several studies have reported that halal literacy among SMEs remains relatively low, with many business actors lacking understanding of the procedures and benefits of certification (Harahap & Tambunan, 2022). This gap indicates the need for further research into how halal literacy affects compliance intention in Indonesia's halal ecosystem.

Social influence refers to the perceived pressure that individuals or organizations experience from important reference groups, including consumers, communities, business associations, and government institutions. Within TPB, this construct is conceptualized as *subjective norm*, which captures the extent to which individuals feel compelled to act in accordance with the expectations of others (Ajzen, 1991). For

SMEs, social influence may derive from consumer demand for halal products, peer practices within business networks, or policies promoted by industry associations and local authorities.

Empirical evidence suggests that social influence plays a crucial role in shaping intention to adopt halal practices. Mukhtar and Butt (2012) found that peer influence and religiosity significantly affected consumers' intention to purchase halal products. Similarly, Wilson and Liu (2010) demonstrated that social norms, particularly those reinforced by community values, influenced consumption choices in multicultural markets. In Indonesia, where the majority of consumers are Muslim, social influence is particularly relevant, as SMEs often face increasing pressure from both consumer expectations and community norms to adopt halal certification. This makes subjective norms a key predictor of compliance behavior within the Indonesian halal ecosystem.

Perceived cost refers to SMEs' assessment of the financial, administrative, and time-related burdens associated with obtaining halal certification. Within TPB, this construct aligns with *perceived behavioral control*, which reflects the individual's perception of ease or difficulty in performing a behavior (Ajzen, 1991). High perceived costs whether monetary or procedural can lower SMEs' sense of control, thereby weakening their intention to comply with certification requirements.

Several studies emphasize that perceived costs constitute a significant barrier to halal certification. Harahap and Tambunan (2022) reported that many Indonesian SMEs considered certification fees, documentation requirements, and procedural complexity as deterrents to compliance. Similarly, Latif and Fatwa (2025) found that SMEs often view certification as an additional burden rather than a strategic investment to expand market opportunities. These findings underscore the importance of perceived cost as a behavioral determinant, suggesting that reducing financial and administrative barriers may enhance SMEs' intention to comply.

Within the TPB framework, *intention to comply* refers to the degree of readiness or willingness of SMEs to adhere to halal certification requirements. Intention is considered the most immediate predictor of actual behavior, as it captures motivational factors that influence compliance decisions (Ajzen, 1991). Thus, analyzing SMEs' intention provides valuable insights into the likelihood of actual certification adoption.

Empirical evidence confirms that halal literacy, social influence, and perceived cost significantly affect compliance intention. Alam and Sayuti (2011) demonstrated that attitude and social influence were strong predictors of halal purchasing behavior. Comparative studies across Malaysia, Brunei, and Pakistan also indicate that TPB constructs effectively explain variations in halal compliance and consumption behavior (Mukhtar & Butt, 2012; Ahmad et al., 2018). In Indonesia, however, limited studies have systematically applied TPB to halal certification among SMEs, leaving an important research gap regarding compliance intention in this context.

Behavioral interventions are essential for overcoming barriers to halal certification. Educational initiatives can improve halal literacy, while awareness campaigns can strengthen social influence by mobilizing consumer demand and community engagement. Moreover, providing financial incentives, subsidies, or simplified procedures can reduce perceived costs, thereby enhancing SMEs' perceived behavioral control (Wilson & Liu, 2010).

To formulate effective interventions, this study employs strategic tools such as SWOT analysis, TOWS matrix, and the logic model. SWOT and TOWS provide structured frameworks to identify strengths, weaknesses, opportunities, and threats, while aligning internal and external factors for strategy development (Weihrich, 1982). The logic model further translates findings into actionable pathways by mapping inputs, activities, outputs, and intended outcomes (W.K. Kellogg Foundation, 2004). These tools allow researchers and policymakers to move beyond theoretical constructs toward practical, evidence-based strategies.

Despite the growing body of literature on halal certification, few studies integrate TPB into the context of Indonesian SMEs. Most existing studies have either focused on consumer behavior or examined compliance from a structural and regulatory perspective (Harahap & Tambunan, 2022). Moreover, limited research has combined quantitative behavioral analysis with strategic planning tools such as SWOT, TOWS, and logic models. This study addresses these gaps by applying TPB to analyze behavioral determinants of SMEs' compliance intention and subsequently translating empirical findings into strategic interventions. The contribution is twofold: theoretical, by extending TPB into the domain of halal certification among SMEs in Indonesia, and practical, by offering policy-relevant recommendations to enhance compliance and accelerate national halal certification targets.

6 Results and Discussion

The demographic profile of respondents provides valuable insights into the characteristics of SMEs that participated in this study. In terms of business categories, the majority (66.67%) operate in the food sector, followed by smaller proportions in cosmetics, fashion, beverages, and other industries. This dominance of food-related SMEs reflects the central role of food enterprises within the halal ecosystem, as food is the largest and most regulated segment requiring certification. It also reinforces the urgency of examining halal literacy, social influence, and perceived costs in this sector, given its direct relevance to consumer trust and compliance with mandatory halal certification.

With respect to age distribution, most respondents are in the 26–35 (29.7%) and 36–45 (29%) age brackets, while 27.5% are between 17–25 years and 13.8% above 45 years. This suggests that the majority of SME owners or managers are within a productive and entrepreneurial age group, where decision-making regarding certification can be influenced by both economic motivations and generational perspectives on halal compliance. Educational attainment also plays an important role: 57.6% of respondents have at least a bachelor's degree (S1/S2/S3), while 42.4% hold secondary-level education (SD/SMP/SMA). This distribution indicates that while many SME owners are formally educated, a substantial portion may still lack specialized knowledge about certification requirements, which could influence their halal literacy levels and readiness to comply.

Geographically, respondents are spread across major islands of Indonesia, with a strong concentration in Java (71.4%), followed by Sumatra (10.9%), Kalimantan (8%), Sulawesi (8%), and Papua (1%). The dominance of Java-based SMEs aligns with the island's status as the country's economic hub, yet it also highlights the geographical disparity in halal certification outreach. Regions outside Java may face greater obstacles in accessing certification services, auditors, and institutional support, particularly in rural or remote areas. This distribution underscores the importance of context-specific strategies: improving digital services such as SiHalal could reduce regional disparities, while targeted interventions in literacy and cost management may be required to support SMEs in underrepresented areas.

From the results of the questionnaire survey, the data can be described as follows. In the halal literacy (HL) dimension, respondents showed varying levels of understanding regarding halal concepts. Indicators related to basic knowledge, such as distinguishing halal and non-halal raw materials (HL3, 68.1%) and the slaughtering process (HL5, 70.3%), scored relatively high. However, indicators associated with regulations and certification governance, such as knowing the halal certification procedures (HL2, 63.7%) and understanding the roles of BPJPH, LPH, and MUI (HL6, 64.1%), were lower. This indicates that while SMEs have a fair grasp of basic technical aspects, they still face gaps in regulatory and administrative aspects, which are crucial for complying with halal certification.

In the social influence (SI) dimension, the survey results show consistently high tendencies, with scores ranging from 75% to 78.7%. Support from close relatives (SI1, 78.7%) and the influence of religious leaders (SI3, 77.2%) were dominant factors, followed by community support (SI2, 76.5%) and consideration of opinions from the surrounding environment (SI4, 75%). These findings confirm that social and cultural norms in Indonesia's Muslim society strongly affect SMEs' intention to comply with mandatory halal certification. In line with the *Theory of Planned Behavior*, subjective norms are proven to be an important driver that strengthens compliance intention, especially when reinforced by religious authorities and social networks.

Furthermore, in the perceived cost (PC) dimension, certification costs remain a central issue. Statements such as "halal certification is too expensive" (PC1, 79.4%) and "the certification process requires extra money/effort" (PC2, 78.6%) received the highest scores. Nevertheless, in the intention (IN) dimension, respondents still showed strong commitment to comply with halal regulations (IN2, 77.5%) and willingness to allocate resources (IN3, 64.1%), despite the challenges. These findings suggest that although cost perceptions tend to act as barriers, SMEs still maintain a strong intention to pursue halal certification, particularly when supported by social influence and improved literacy. This result aligns with the TPB framework, where halal literacy, social influence, and perceived cost jointly shape intention to comply.

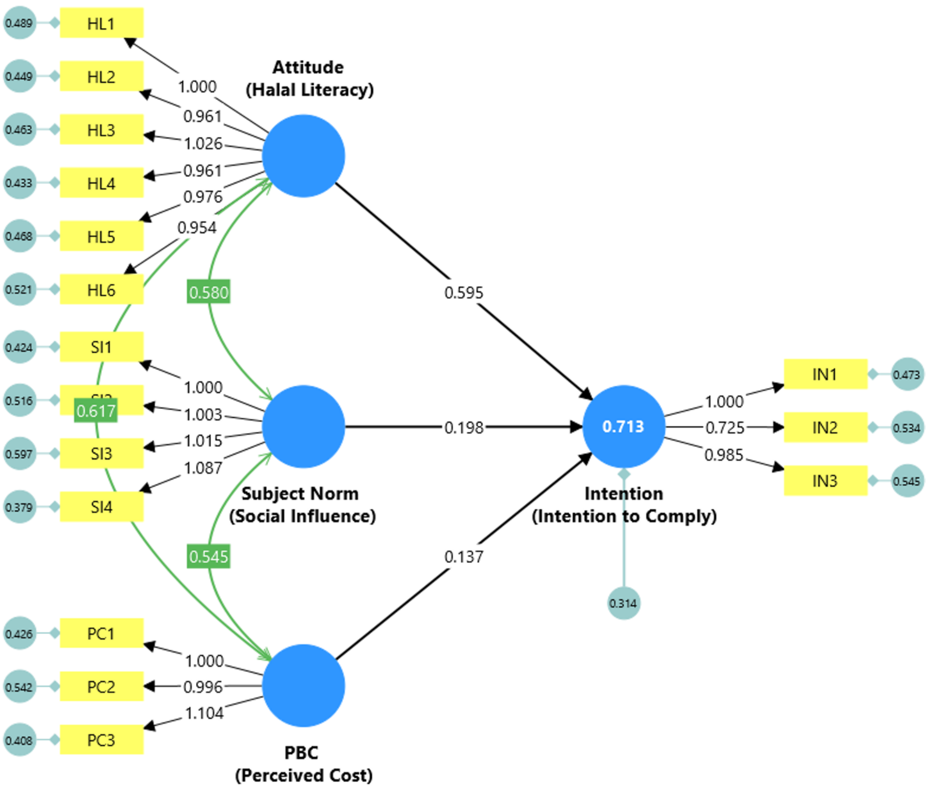

Figure 1. Structural Equation Model based on TPB framework

The structural model was analyzed using SmartPLS 4, applying the Theory of Planned Behavior (TPB) as the analytical framework. In line with TPB, intention is influenced by attitude, subjective norm, and perceived behavioral control (Ajzen, 1991). The findings demonstrate that halal literacy (attitude) exerts the strongest influence on SMEs' intention to comply with halal certification. SME owners who possess a deeper understanding of halal concepts, certification procedures, and the associated benefits tend to develop a more favorable attitude toward compliance. This result resonates with prior studies that highlight the role of halal knowledge and awareness in shaping positive behavioral intentions (Ahmad et al., 2018; Alam & Sayuti, 2011). Strengthening halal literacy among SMEs is therefore a critical driver for improving compliance with mandatory certification.

Social influence (subjective norm) also shows a significant positive relationship with compliance intention. The support and expectations of family members, religious leaders, business associations, and the wider community serve as normative pressures that encourage SMEs to adopt certification. This aligns with previous findings that social norms and community expectations play a decisive role in shaping halal-related behaviors, particularly in Muslim-majority societies (Mukhtar & Butt, 2012; Wilson & Liu, 2010). The results indicate that SMEs are not only motivated by individual attitudes but also by the social environment in which they operate, reinforcing the importance of collective values and market demand in driving compliance behavior.

Interestingly, perceived cost (perceived behavioral control), while often cited as a barrier, still demonstrates a positive effect on compliance intention. This suggests that although SMEs perceive certification as financially and administratively demanding, they are still willing to pursue it when they recognize the long-term benefits, such as increased consumer trust and expanded market opportunities. These findings are consistent with studies showing that cost considerations can influence compliance decisions but may be outweighed by strategic benefits (Harahap & Tambunan, 2022; Latif & Fatwa, 2025). Moreover, the interplay among halal literacy, social influence, and perceived cost illustrates the holistic nature of TPB, where intention emerges from a combination of attitudes, social pressures, and perceived control over resources and constraints.

Based on the quantitative data obtained, the SWOT analysis can be formulated as follows:

Table 1. Strengths, Weaknesses, Opportunies, Theats

S Strengths	W Weaknesses	O Opportunities	T Threats
• High halal literacy rate (HL 68–70%) • High positive responses for social support (SI1 = 78.7%, SI3 = 77.2%) • Strong intention to comply (IN2 = 77.5%) • High perceived cost awareness indicating motivation for cost-effective solutions	• High cost perception of halal certification (PC1=79%) • High cost perception of halal certification (PC2=76%) • Perceived procedural and time burdens (PC3=73%) • Moderate willingness to initiate certification soon (IN1 = 64.1%)	• Government push for mandatory halal certification • Availability of digital and remote certification methods • Growing demand for halal-certified products • Global Halal Market	• High perception of cost barriers (PC1 = 79.4%, PC2 = 76.8%, PC3 = 76.1% • Low access to affordable LPH services • SMEs time and resource limitations

Authors' processed data (2025)

From the SWOT analysis, the TOWS Matrix (Strategic Options) can be formulated as follows in table 2. SO strategies emphasize leveraging SMEs' internal strengths and capitalizing on external opportunities, particularly by enhancing halal literacy and utilizing market demand to drive compliance with certification. WO strategies address existing weaknesses such as limited knowledge and resources by aligning them with external opportunities, including regulatory support and capacity-building programs that can strengthen SMEs' readiness. ST strategies highlight the use of internal strengths, such as strong community support and social influence, to counter external threats such as high certification costs and increasing competition. Finally, WT strategies focus on minimizing risks when weaknesses and threats converge, through defensive measures such as institutional support, cost-sharing mechanisms, and collaborative initiatives to ensure SMEs are not left behind in the mandatory halal certification process.

Table 2. TOWS Matrix (Strategic Options)

TOWS MATRIX	Opportunities (O)	Threats (T)
Strengths (S)	1. Expanding halal literacy through online training utilizing mandatory halal regulations and digital platforms. 2. Integrating social support campaigns (religious/community leaders) with government halal certification programs. 3. Leveraging strong intentions (IN2 = 77.5%) to encourage participation in the global market certification acceleration program. 4. Increasing program participation through cost-based certification incentives.	1. Leverage high literacy and social support to reduce negative perceptions about costs and procedural barriers. 2. Encourage the formation of campus-based community-based LPHs with the support of local leaders. 3. Build a peer-to-peer network of certified MSMEs to assist those that have not yet been certified. 4. Promote transparent certification cost mapping education to ensure MSMEs are not misled by high cost assumptions.
TOWS MATRIX	**Opportunities (O)**	**Threats (T)**
Weaknesses (W)	1. Simplify the certification process and promote online channels for MSMEs that	1. Establish a cost subsidy scheme and reduce procedural burdens specifically for

	perceive high time and cost burdens. 2. Encourage the use of technology-based remote LPH (Lighting Institutions) to reduce time and labor costs. 3. Collaborate with universities, business communities, and halal associations for regular mentoring. 4. Increase motivation to begin the process with a phased certification system or initial subsidies	the regular pathway. 2. Improve LPH accessibility by establishing affordable service posts in areas dense with MSMEs. 3. Provide time and resource management training for MSMEs to prepare them for the certification process. 4. Encourage non-financial incentives (such as market recognition and branding support) to encourage initial certification intentions.

Authors' processed data (2025)

Following the formulation of strategic options through the TOWS Matrix, it is essential to translate these strategies into a structured framework that facilitates practical implementation. To achieve this, the logic model approach is employed, providing a systematic representation of how inputs and activities are expected to generate outputs, outcomes, and long-term impacts. This model not only bridges the gap between strategic planning and execution but also ensures that the proposed interventions are measurable, realistic, and aligned with the objectives of strengthening SMEs' compliance with mandatory halal certification. Accordingly, the logic model for strategy implementation is presented in Table 3.

Table 3. Logic Model for Strategy Implementation

Input	Activities	Output	Outcome
Government policy (PP No. 39/2021) and global halal roadmap	Disseminate info that halal-certified SMEs will gain access to export facilitation,	Increased motivation among SMEs to get certified	Higher intention to comply with halal certification due

	trade fairs, and mentoring		to economic incentives
State-funded incentives and fiscal budget	Provide subsidies or compensation for regular-path SMEs (non-self-declared)	Reduced financial burden for SMEs	Declining perceived cost as a barrier
Collaboration with public universities	Establish new LPHs with affordable access and halal testing equipment, jointly operated by universities	Increased availability of LPH at lower cost	Increased access and convenience in halal testing and certification
National education system & Ministry of Education	Integrate halal literacy into formal school curricula from early childhood (TK) to secondary education	Institutionalized halal awareness education	Formation of halal-minded generation from an early age
Community-based organizations & religious leaders	Empower religious figures and business communities to regularly deliver halal education (online/offline) to MSMEs	Consistent exposure to halal values through trusted figures	Reinforced intention and social norm toward halal compliance
Digital platforms & e-learning modules	Create interactive digital content, simulations, and gamified learning for understanding the role of BPJPH, LPH, and halal procedures	Improved understanding of institutional roles and processes	Reduced confusion and increased confidence to proceed with certification
Ministry of Cooperatives, Trade Attachés, and export accelerators	Align halal-certified SMEs with global halal market expansion programs through government matchmaking events and trade diplomacy	-SMEs enter structured market development pipeline	Certification intention increases due to visible business benefits

7 Conclusion

The findings of this study demonstrate that halal literacy, social influence, and perceived cost significantly affect the intention of SMEs in Indonesia to comply with halal certification requirements. Halal literacy emerged as the most influential factor, indicating that SMEs with greater knowledge and understanding of halal concepts, certification procedures, and regulatory frameworks are more motivated to comply. Social influence also showed a strong positive effect, emphasizing the importance of family, community, and religious leaders in shaping SMEs' decisions. Although perceived cost was identified as a barrier, it still had a positive relationship with compliance intention, suggesting that SMEs are willing to invest in certification when they recognize its long-term benefits for market trust and competitiveness.

In addressing the second research question, strategic interventions were formulated based on the Theory of Planned Behavior (TPB) and developed through SWOT and TOWS analyses. The recommended strategies include enhancing halal literacy through education and training programs, leveraging social influence via community and religious-based campaigns, and reducing the perceived burden of costs through financial incentives, simplified procedures, and digitalized certification systems. Implemented collectively, these interventions are expected to strengthen SMEs' readiness and intention to comply, thereby contributing to the achievement of national halal certification targets and positioning Indonesia more competitively in the global halal market.

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