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The Role of Halal Advisors in Bridging Information and Digital Barriers in Halal Certification for MSMEs in Palembang City

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Abstract: *The digitization of halal certification services through the Halal Information System (SIHALAL) provides convenience for Micro and Small Enterprises (MSEs), but at the same time presents new demands regarding information and digital literacy. This study aims to analyze the role of Halal Product Process Facilitators (PPH) in helping MSME operators overcome information and digital barriers, as well as to examine the contribution of this facilitation to the digital confidence and autonomy of business operators in Palembang. The study employed a qualitative approach, collecting data through interviews, observations, and documentation involving MSME operators and PPH facilitators. Analysis was conducted thematically by integrating perspectives on the Diffusion of Innovations, the digital divide, social capital, and self-efficacy. The results indicate that PPH mentors serve as information mediators, facilitators for using SIHALAL, and liaisons between regulatory requirements and business practices. Mentoring not only assists with administrative tasks but also reduces uncertainty, builds trust, and boosts business owners' confidence in using digital services. The mentoring process, carried out in stages through explanation, practice, correction, and consultation, resulted in improved skills and a shift from dependence toward digital self-reliance. This study concludes that the effectiveness of digital-based halal certification is determined not only by the availability of the system but also by user capacity and the quality of mentoring. PPH facilitators serve as bridging actors who connect regulations, technology, and MSME capacity so that the digitization of halal services can evolve from a mere administrative process into a sustainable empowerment process. This success underscores that the effectiveness of digital halal certification heavily depends on the quality of guidance that enables MSMEs to achieve autonomy in accessing and utilizing digital services sustainably.*

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INTRODUCTION

Halal certification plays a vital role in ensuring the halal status of products while supporting the development of micro, small, and medium-sized enterprises (MSMEs) . For business owners, halal certification is linked to consumer trust, product acceptance, and opportunities for market expansion [1]. Research by Viverita, Kusumastuti, and Rachmawati indicates that increased sales, market expansion, and providing consumers with a sense of security are among the reasons small businesses apply for halal certification.[1] Awareness of the benefits of certification is not always accompanied by the ability to meet the application requirements. Business owners need to understand the procedures, prepare the

necessary documents, and ensure the compliance of raw materials and production processes. These conditions make access to information and practical assistance a critical issue in the delivery of halal certification services [2] .

The development of digital-based halal certification services has created new requirements for business operators. Submitting applications through the Halal Information System (SIHALAL) requires both the availability of necessary information and the ability to complete electronic procedures[3] . In the provisions of the 2026 Free Halal Certification Program (SEHATI), the BPJPH explains that micro and small businesses that meet the criteria must provide information and documents, including a list of ingredients, processing procedures, product names and photos, as well as the Halal Product Assurance System manual[4] . The availability of an online system must be accompanied by business operators' ability to understand and submit the requested information. Information barriers are understood as difficulties in obtaining, understanding, and applying explanations regarding certification requirements. Meanwhile, digital barriers refer to difficulties in using devices and completing the steps of electronic services. Both barriers need to be examined simultaneously because understanding the requirements determines readiness to enter data into the system [5] .

The link between administrative issues and digital capabilities has been demonstrated by Faridah's research [6]. The study found that a reliance on manual administrative processes, limited understanding of information technology, and a lack of legal documentation can hinder the halal certification process for micro and small businesses. The research also proposed improving digital literacy, streamlining administrative processes, and strengthening collaboration among stakeholders [7]. These findings provide a basis for understanding that the digitization of services requires support tailored to users' circumstances [8]. Given these challenges, assistance with operating the system must be accompanied by explanations regarding the content and purpose of the requirements. Guidance that integrates these two needs has the potential to help business owners navigate the application process with a better understanding.

In the context of Palembang, the need for understanding and guidance regarding halal certification is evident in the activities carried out by Wahyudi and his colleagues in the Sako neighborhood. These outreach and training activities reported an increase in participants' understanding and interest in applying for halal certification. However, the activity organizers also emphasized the need for ongoing guidance, particularly regarding document processing and financing [9]. These findings indicate that initial education must be followed by support that helps business owners navigate the application process. Although the results of the activities in Sako Subdistrict cannot be generalized to all MSMEs in Palembang, these findings provide a local context regarding the importance of continuity between outreach, administrative readiness, and guidance. Therefore, studies on access to halal certification in Palembang need to consider how information is received and used by business owners in addressing their service needs.

Halal Product Process Facilitators (PPH) are key actors in bridging this need, particularly under the business operator *self-declaration* scheme. BPJPH regulations stipulate that halal verification by a PPH facilitator is a requirement for micro and small businesses participating in the SEHATI Program [10]. Within the framework of this study, the role of the facilitator is examined through the relationship between explaining requirements, assisting with information preparation, and providing guidance on the use of digital services. A key issue to consider is whether the assistance provided merely

resolves submission difficulties at a specific moment or also enhances business owners' understanding to proceed to the next stages. On this basis, the quality of assistance must be assessed through the ability to identify needs, provide understandable explanations, and create opportunities for business owners to learn. This focus is directed at micro and small businesses that meet the *self-declaration* criteria, within the context of MSMEs in Palembang City.

Previous research in Palembang has examined the relationship between service quality, mentor competence, and business owner participation. Petrawangsyah, Azwari, and Rusdi used a quantitative approach with SEM-PLS analysis to examine the influence of service quality and mentor competence on interest in participating in *self-declared* halal certification [11] . The results indicate that service quality and mentor competence significantly influence business owners' trust and interest, with trust acting as a mediating variable [12]. When considered alongside research on the digitization of services and educational activities in Sako Village, this literature highlights the relationship between user readiness, mentor support, and access to halal certification. Nevertheless, there is still room to examine the mentoring mechanisms in greater depth, particularly how mentors identify and address informational and digital barriers, build trust, and help business owners develop the ability to use services independently. In other words, the aspects that need attention are not only the success of certification applications but also changes in business owners' capacity throughout the mentoring process.

Based on this background and literature review, this study aims to analyze the role of halal mentors in bridging information and digital barriers in halal certification for MSMEs in Palembang. The discussion focuses on the types of barriers faced by business owners, the mentoring practices used to overcome them, and the factors that support or limit the mentoring process. Unlike studies that focus on administrative aspects and the completion of certification applications, this study also examines how the mentoring process contributes to the transformation of business owners' capabilities—from dependence on mentors' assistance toward digital self-reliance. This transformation is examined through business operators' experiences in understanding requirements, preparing documents, using SIHALAL, and attempting to complete the application stages independently. The analytical framework integrates perspectives on the Diffusion of Innovations, the digital divide, social capital, and self-efficacy to explain the interrelationships between information dissemination, digital skills, trust, and business operators' confidence in their own abilities. Through this focus, this study positions halal certification mentoring as a process of learning and empowerment, rather than merely administrative facilitation. It is hoped that the findings of this study will serve as a foundation for the development of a mentoring model oriented toward the sustainable strengthening of information literacy, digital skills, and the independence of MSME entrepreneurs.

THEORETICAL FOUNDATION

Halal Advisors in the Halal Certification Process

Halal Product Process Facilitators (PPH) are actors who provide guidance, as well as verification and validation of product halal status, in the halal certification process through the business operator *self-declaration* scheme. This scheme is intended for micro and small businesses that meet the established criteria. The BPJPH explains that this assistance includes education, guidance, and facilitation to help business operators

navigate the halal certification process [13]. In the context of this study, halal facilitators are understood not only as facilitators in meeting certification requirements but also as parties who help business operators understand information, learn digital procedures, and develop the ability to access services more independently.

In this study, the role of halal facilitators is understood through three types of activities: explaining certification information, guiding the use of digital services, and conducting verification and validation within their authority. This categorization serves as the operational framework for examining facilitation practices. Explanations of information cover the requirements and stages of the application process; digital guidance covers assistance with using SIHALAL; while verification and validation relate to checking the compliance of ingredients and halal product processes [14]. These three forms of activity serve as the basis for analyzing how facilitators connect certification requirements with the needs of business operators, while also providing learning opportunities so that the assistance provided does not end with the completion of administrative procedures.

The Theory of Innovation Diffusion and Information Barriers

Everett M. Rogers' theory of innovation diffusion explains the spread of innovations through communication channels within a social system over time. This theory focuses on the process of adopting new ideas or practices and the role of change agents in facilitating that process [15]. This perspective is relevant for examining how business operators become familiar with and begin using digital-based halal certification procedures. In its application to this study, novelty is understood from the business operators' experience: the use of SIHALAL can be a new practice for users who are not yet accustomed to accessing online administrative services.

In this study, information barriers are defined as difficulties in obtaining, understanding, and applying the information required to apply for halal certification. These barriers can be examined through business operators' understanding of the requirements, document completeness, ingredient regulations, and service stages. This definition distinguishes between the availability of information and the ability to use that information. Information that has been publicly announced may not necessarily be immediately applicable if the terminology or procedures are not yet understood.

From the perspective of innovation diffusion, halal advisors can be analyzed as agents of change who help introduce procedures, explain benefits, and reduce uncertainty among business operators. This application is a theoretical interpretation for research purposes, not the assignment of additional formal duties to the advisors. The analysis focuses on the communication processes that help business owners recognize the benefits of certification, understand SIHALAL procedures, and begin adopting digital services. Within this framework, the diffusion of innovations explains the process of system acceptance and use, while information barriers highlight the difficulties that can affect this adoption process.

Digital Divide Theory

Jan van Dijk explains the digital divide through several aspects of access: motivation, material access, skills, and usage. This perspective shows that the digital divide cannot be fully understood solely through device ownership or internet connectivity [16] . A person's ability and opportunity to use technology also determine their engagement with digital

services. Research by van Deursen and van Dijk also shows that differences in material access remain relevant, even as internet access has become widespread [17] .

In the context of halal certification, motivational access is used to assess business operators' willingness and readiness to use SIHALAL. Material access relates to the availability of adequate devices and an internet connection. Skill access encompasses the ability to operate the system, enter information, and upload documents. Usage access relates to the ability to utilize the service to complete the application process. These four aspects serve as the basis for identifying the specific challenges faced by business operators.

The digital divide theory also helps distinguish between independent use of services and use that is entirely dependent on assistance from others. In this study, mentoring was examined based on how assistance was provided and the learning opportunities available to business owners. Submitting applications with the help of a mentor can address administrative needs, but improvements in digital skills need to be examined separately. The analysis of the digital divide focuses not only on business owners' initial ability to access SIHALAL but also on changes in their skills and patterns of system use during the mentoring process. This perspective helps clarify whether the assistance provided merely overcomes technical obstacles during the application process or also enhances business owners' ability to navigate the service stages independently.

Social Capital in Mentoring Relationships

Nahapiet and Ghoshal define social capital as a resource related to networks of relationships that can support the creation and exchange of knowledge [18]. This framework provides a basis for understanding that social relationships play a role in facilitating access to information and assistance. In this study, the social capital perspective is applied to examine the relationships between business owners, halal mentors, and mentoring institutions. Its application focuses on access to support networks, trust in interactions, and a shared understanding of service requirements.

Access to support networks refers to how business owners find and contact mentors. Trust refers to the willingness to share difficulties, provide necessary information, and follow the mentor's guidance. Mutual understanding refers to the use of language and explanations that enable both parties to understand the requirements of the application. These three aspects are used by as the focus of its analysis of mentoring relationships, without assuming that all such relationships are always effective.

From this perspective, halal advisors can be understood as intermediaries who provide access to knowledge and service support. The impact of these relationships on business owners' understanding and capabilities still needs to be substantiated through research data. The analysis must also consider the potential for dependency if assistance is not accompanied by opportunities for business owners to learn the procedures.

Technology Adoption, Trust, and Digital Self-Reliance

The four theoretical perspectives in this study were used in an integrated manner to explain the halal certification mentoring process. Everett M. Rogers' Theory of the Diffusion of Innovations explains the adoption process of SIHALAL through communication and the assistance of mentors, while Jan van Dijk's digital divide perspective identifies barriers related to access, motivation, skills, and technology use. The social capital perspective by Nahapiet and Ghoshal explains the role of social networks and trust in facilitating information exchange, while Albert Bandura's concept of self-

efficacy describes how business owners develop confidence in their abilities through trial and error, receiving guidance, and correcting mistakes.

These four perspectives complement one another in explaining the shift from dependence on a mentor toward digital independence. The mentor's trust and support open up learning opportunities, while the experience of using SIHALAL helps build skills and self-confidence. In this study, digital independence is understood as the ability of business owners to understand certification information, prepare documents, carry out the basic steps of the application process, handle simple obstacles, and know when assistance is needed. This framework serves as the basis for analyzing how the quality of mentoring relates to changes in business owners' understanding, skills, self-confidence, and level of dependence when accessing digital halal certification services.

RESEARCH METHODOLOGY

This study was designed using a qualitative approach with a case study design. This approach was chosen to gain an in-depth understanding of the role of halal facilitators in bridging information and digital barriers to halal certification among MSMEs in Palembang. The case study focused on the practice of providing assistance in applying for halal certification through the business operator *self-declaration* scheme [19]. The unit of analysis was the interaction between Halal Product Process Facilitators (PPH) and business operators in understanding the requirements, preparing documents, and using the Halal Information System (SIHALAL). The focus on business operators was limited to micro and small businesses that met the criteria of this scheme.

The study was conducted in the city of Palembang, with locations selected based on the availability of halal certification assistance programs and ease of access for research purposes. Informants were selected using *purposive sampling*, based on their experience and involvement relevant to the study's focus[20]. Key informants included PPH facilitators who had previously assisted with halal certification applications, as well as business owners who were currently participating in or had previously participated in the assistance program. The selection of SME business owner informants took into account variations in digital proficiency levels to ensure that user experiences across different skill levels were represented in the empirical data. This variation was traced based on experience using SIHALAL, the ability to prepare and upload documents, and the level of need for assistance from facilitators in carrying out the application stages. Business owners who still rely on facilitator assistance, those who are beginning to carry out some stages independently, and those who have been able to complete the basic stages independently were considered as categories in the selection of informants, provided they align with the empirical conditions in the field. The selection of informants also took into account the status of applications, including those that were completed, still in progress, or experiencing obstacles. Supporting informants could come from PPH supporting institutions and MSME supervisory agencies. The number of informants was determined based on the sufficiency of information and thematic saturation—that is, when collecting additional data no longer yielded new substantive insights.

Data were collected through in-depth interviews, observations, and document reviews [21] . Interviews were conducted using a semi-structured approach to explore business owners' experiences in obtaining information, understanding requirements, using SIHALAL, and receiving assistance from facilitators. Interviews with facilitators focused on how they identify business owners' difficulties, provide explanations, guide them in

using the system, and address the limitations of the facilitation process. Observations were conducted of mentoring activities that had been approved by the relevant parties, focusing on communication styles, the division of tasks, difficulties that arose, and opportunities for business owners to learn the procedures. The document review included official halal certification guidelines, outreach materials, and mentoring documents authorized for use. Personal data, account credentials, and confidential business information were not included in the research report.

Data analysis was conducted thematically through repeated data reading, coding, category grouping, theme development, and drawing conclusions [22] . The analysis combined the initial categories from the theoretical framework with themes that emerged from the informants' experiences. The initial categories included information barriers, motivational and material access, digital skills, service usage, supportive communication, as well as access to assistance and trust. Digital divide theory was used to understand variations in the ability to access SIHALAL; the theory of diffusion of innovations was used to examine the dissemination of information and familiarization with procedures; and the social capital perspective was used to understand supportive relationships. These three perspectives were used as interpretive tools without limiting the possibility of findings emerging outside the initial categories.

Data validity was strengthened through source and methodological triangulation [23]. Source triangulation was conducted by comparing statements from business owners, facilitators, and supporting informants. Methodological triangulation was conducted by comparing the results of interviews, observations, and document reviews. Clarifications were sought from informants regarding information or interpretations that were unclear. The researcher also maintained records of data collection and analytical decisions to ensure the traceability of the research process. Discrepancies in statements among informants were analyzed as part of the variation in their experiences, rather than being eliminated to produce uniform conclusions.

The research was conducted with due regard for voluntary consent, confidentiality of identity, and the informants' right to withdraw their participation. Interviews were recorded after obtaining consent, while the informants' identities were anonymized in the presentation of the results. The assessment of the facilitators' roles was based on experience and available evidence, distinguishing between the processing of applications from and the enhancement of business owners' digital literacy and independence. The research conclusions are limited to the context of the case studied and should not be used to statistically generalize the conditions of all MSMEs in Palembang.

RESULTS AND DISCUSSION

Information and Digital Barriers in Halal Certification Applications Among SMEs in Palembang City

The study's findings indicate that the barriers faced by MSME operators in Palembang City in accessing halal certification are not solely due to a lack of information, but also to their ability to understand, interpret, and apply that information during the application process. Information regarding halal certification is relatively easy to find through outreach programs, social media, the internet, and networks among fellow business operators. However, the availability of information does not automatically enable business owners to understand the requirements, prepare the necessary documents, and

submit applications independently through digital services. Thus, information barriers and digital barriers are two intertwined issues.

Information barriers are particularly evident in the difficulties businesses face in understanding certification requirements and procedures. Businesses not only need to know that products must use halal ingredients, but they also need to understand information regarding ingredients, processing methods, product names and photos, as well as the required supporting documents. For business operators who are not yet familiar with the certification process, challenges arise when they must determine what information to prepare, organize it, and submit it at the appropriate stages. This situation highlights a gap between the available information and the ability to interpret it.

Access to information must therefore be understood as a process that involves obtaining, understanding, and applying information. Information obtained through outreach or digital media may not necessarily be effective if business operators do not understand the terminology and sequence of procedures involved. Misunderstandings regarding the requirements can also impact subsequent stages, as the data entered must correspond to the product specifications and production processes. These findings align with a study by Yuanitasari, Sardjono, and Susetyo, which indicates that a reliance on manual administrative practices, limited understanding of information technology, and a lack of legal documentation can act as barriers to halal certification for micro and small businesses [24]. These findings demonstrate that administrative and technological challenges are inextricably linked. When business owners are not accustomed to managing documents digitally, the application process via online systems becomes increasingly complex because they must deal with administrative issues as well as the demands of using technology.

The context in Palembang also shows that outreach efforts are not always sufficient to bring business owners to the application stage. Outreach and training activities on halal certification in Sako Village, for example, can increase participants' understanding and interest, but there remains a need for follow-up assistance, particularly regarding documentation and financing. These findings indicate that increasing knowledge is an initial step that must be followed by practical assistance. Thus, the effectiveness of halal certification education is determined not only by how much information is conveyed, but also by business owners' ability to translate that information into action.

The next obstacle relates to the use of the Halal Information System (SIHALAL). While the digitization of services does provide ease of access and streamline the application process, it also requires new skills. Business owners need to be able to access the system, enter data, upload documents, understand instructions, and follow the steps of the electronic application process. Therefore, owning a smartphone and having internet access cannot yet be considered the sole indicator of digital readiness among MSME business owners. Jan van Dijk's perspective on the digital divide helps explain this situation [24]. The digital divide is not only related to material access to devices and the internet but also encompasses motivation, skills, and the ability to use technology. In the context of halal certification, motivation relates to the willingness to go through the certification process; material access relates to devices and an internet connection; skills relate to the ability to operate SIHALAL; while usage relates to the ability to effectively utilize the system to complete the application.

This framework indicates that the digital barriers faced by MSMEs in Palembang are more complex than simply the issue of device ownership. Business owners may have

smartphones and internet access, but they still encounter difficulties when dealing with digital administrative systems with which they are unfamiliar. The transition from manual administrative practices to electronic data entry requires specific skills and experience. Thus, the main barriers may lie in digital skills and effective use, rather than solely in digital access. The relationship between information and digital barriers becomes increasingly apparent when certification requirements must be translated into electronic forms. Business owners who do not understand what information is required will have difficulty filling out the forms. Conversely, business owners who are sufficiently skilled at using devices but lack an understanding of the substance of the requirements also risk entering inaccurate data. These conditions demonstrate that information literacy and digital literacy are two capacities that must develop simultaneously.

Rogers' Diffusion of Innovations perspective also provides an explanation for this phenomenon [25]. The use of SIHALAL can be understood as a form of adoption of new practices by business operators who were previously more accustomed to direct or manual administrative processes. In the process of innovation adoption, communication and the role of change agents are necessary to reduce uncertainty and help users understand how the innovation works. In the context of this study, halal facilitators can be understood analytically as parties who help translate digital procedures into practical steps. This perspective is used as an interpretive framework for understanding the facilitation process, not to add formal tasks beyond the facilitators' authority.

Based on these findings, barriers to halal certification can be understood as multi-layered obstacles. The first layer is knowledge—specifically, whether business operators are aware of the existence and benefits of certification. The second layer is understanding—the ability to comprehend the requirements and procedures. The third layer is administration—the ability to prepare documents and information. The fourth layer is digital literacy—the ability to use SIHALAL to submit this information. These four layers are interrelated, so resolving one barrier does not necessarily resolve the others. This explains why the digitization of halal certification services does not automatically eliminate access barriers for MSMEs. Digitization can improve service efficiency, but at the same time, it creates new competency requirements for users. Therefore, the transformation of services from a manual system to a digital system must be accompanied by a transformation of user capacity through education, mentoring, hands-on practice, and support when errors occur.

These findings are further supported by research by Petrawangsyah, Azwari, and Rusdi, which demonstrates a relationship between service quality and the competence of business advisors and the trust and interest of business owners in participating in *self-declared* halal certification, with trust serving as a mediating variable [26] . These findings indicate that access to certification cannot be achieved solely through the provision of a system but also depends on the quality of service interactions and the competence of those assisting business owners. Information and digital barriers faced by MSMEs in Palembang stem from the interplay between knowledge, administrative processes, and technological skills. Business owners need information that is not only available but also understandable and applicable; similarly, they need digital systems that are not only accessible but can also be used effectively. These barriers should not be viewed solely as individual weaknesses of business owners but rather as the result of the interaction between the complexity of requirements, patterns of information communication, administrative readiness, digital capabilities, and service characteristics.

These findings also provide a basis for discussing the role of PPH Facilitators. When information and digital barriers occur simultaneously, facilitators are in a strategic position to bridge the gap between regulations and business practices, as well as between technology and user capacity. Therefore, an effective mentoring model should not merely focus on completing the certification application process but must also be directed toward improving information literacy, digital skills, and the autonomy of MSME operators in accessing halal certification services.

The Role of Halal Facilitators as Information Mediators and Digital Service Facilitators

The research findings indicate that Halal Product Process Facilitators (PPH) play a strategic role in bridging the gap between MSME operators and the increasingly digitized halal certification process. This role extends beyond simply conveying information; it includes interpreting regulatory requirements, providing administrative assistance, facilitating the use of the Halal Information System (SIHALAL), and verifying the compliance of raw materials and production processes. These findings indicate that the availability of information and digital systems does not automatically enable MSME operators to apply for certification independently, as each business operator's capacity to understand regulations and their digital skills vary.

Most informants were already aware of the importance of halal certification but did not yet understand the operational steps of the application process. Information obtained from outreach events, the internet, social media, or fellow business owners did not always translate into administrative action. One business owner stated:

"At first, I knew that halal certification was important, but I didn't know where to start. After my advisor explained it to me, I realized that it's not just about registering—I also have to prepare data on ingredients, the manufacturing process, product photos, and several other documents." *(MSME Informant-1, interview, July 2026).*

This statement highlights a gap between knowledge of certification and the ability to implement its requirements. From the perspective of *the Diffusion of Innovations theory*, this situation underscores the importance of *change agents* who can reduce uncertainty and translate innovations or new procedures into practice. In this context, PPH facilitators serve as intermediaries linking regulations to the concrete realities of businesses, thereby transforming general information into actionable knowledge. This mediating function is evident in the way facilitators tailor their explanations to the characteristics of each business. Facilitators do not immediately direct business owners to fill out the system; instead, they first identify the types of products, materials, production processes, and available documents. These findings underscore that facilitation must focus on developing business owners' practical skills, rather than merely increasing their knowledge of or interest in halal certification. One facilitator explained:

"We don't usually ask business owners to enter data into the system right away. We first look at their business, what products they offer, and what materials they use, and then explain step by step what they need to prepare." *(Informant PPH-1, interview, August 2026).*

Thus, the facilitator serves as a mediator of contextual information. This role is increasingly important because the sheer volume of digital information does not always lead to accurate understanding. One business owner remarked:

"There's actually a lot of information online, but sometimes I don't know which information to follow. After asking my mentor, things became clearer because the explanation was tailored to my business." (MSME Informant 2, interview, September 2026).

These findings indicate that information-related issues are not only about access but also about the ability to select, understand, and apply information. From Jan van Dijk's perspective on the digital divide, this relates to the "skills" dimension—specifically, the ability to identify relevant information and use it as needed. The abundance of information on the internet does not guarantee that business owners can determine the correct procedures for applying for halal certification. The dimension of *motivation* also needs to be considered because the willingness to use digital services must be supported by an understanding of the steps that need to be taken. Mentors help overcome these difficulties through interpersonal communication and explanations tailored to the characteristics of each business. This role demonstrates that improving access to information must be accompanied by strengthening the ability to evaluate and apply information during the application process. One MSME business owner stated:

"What I found most difficult wasn't the certificate itself, but filling out the system. There were sections where I didn't understand what to enter, and the documents also had to be prepared in a specific format. If I hadn't had someone guide me, I probably would have given up halfway through." (MSME Informant 3, interview, June 2026).

These findings align with Jan van Dijk's perspective on the digital divide, which identifies the technological divide not only in terms of device ownership and internet access but also in terms of skills and the ability to use technology effectively [27]. The informants' difficulties in filling out the SIHALAL form and preparing documents indicate the presence of barriers in the dimensions of *skills* and *usage*. The skills dimension relates to the ability to operate the system, understand instructions, and prepare documents in the required format. Meanwhile, the usage dimension relates to the ability to apply those skills to complete the application stages. The difficulties experienced by the informants indicate that the availability of digital services has not yet been fully accompanied by the ability to use them independently. Guidance is needed to help business owners master the technical steps while gradually understanding the application process. One informant stated:

"At first, I did need some help, especially when filling it out for the first time. After it was explained to me and I tried it myself, I began to understand the process. Now, if something needs to be corrected, I already know which parts to pay attention to." (MSME Informant 4, interview, September 2026).

These changes demonstrate the development of business owners' capacity—from dependence on assistance to the ability to use services more independently. From Jan van Dijk's perspective on the digital divide, these changes primarily reflect progress in the dimensions of skills and usage. The opportunity to try SIHALAL after receiving an explanation helped the informants understand the application process and identify areas that needed improvement. This experience shows that mentoring not only addresses technical difficulties during the application process but also provides an opportunity to build transferable skills. Digital independence begins to emerge when business operators are able to carry out the steps they have learned and recognize when they need assistance when facing obstacles. These findings confirm that the effectiveness of halal certification digitization depends on users' ability to utilize the system, not merely on the availability of the platform. One mentor stated:

"We don't just check whether the documents are complete or not. We also need to understand the materials used and the production process. If any information is unclear, we ask the business operator for clarification so that the data submitted matches the actual conditions on the ground." *(PPH-3 Informant, interview, August 2026).*

This process demonstrates that the guidance has a substantive dimension, as halal certification relates not only to the final product but also to the ingredients and production process. Business operators also gain insights into these aspects:

"The mentors usually ask what materials are used, where they're purchased, and how the products are made. At first, I thought it would be enough just to show the products, but it turns out the manufacturing process needs to be explained as well." *(MSME Informant-5, interview, June 2026).*

Thus, the role of the mentor is multidimensional: as an educator when enhancing understanding, a mediator when interpreting regulations, a facilitator when assisting with the use of digital systems, and a verifier when ensuring the accuracy of information. From a role theory perspective, the facilitator can be understood as *a "boundary spanner*"—that is, an actor who bridges the regulatory system, digital technology, and the socioeconomic reality of MSMEs [28]. Trust, in this context, can be understood as social capital that fosters transparency and encourages business owners to follow procedures. Trust does not replace verification mechanisms but creates a more conducive environment for clarification and learning.

Overall, the findings indicate that halal assistance should not be limited to administrative procedures and the issuance of certificates. Effective assistance must also lead to improved understanding, digital skills, data preparation capabilities, and the autonomy of business owners. From Rogers' perspective, mentors support business owners through the process of knowledge acquisition, acceptance, decision-making, implementation, and reinforcement of adoption. Van Dijk's " " perspective explains the improvement in digital skills, while the social capital perspective highlights the importance of trust in the relationship between mentors and business owners.

Thus, the main contribution of these findings is to position PPH Facilitators not merely as technical implementers of certification, but as bridging actors within the digital halal services ecosystem. Facilitators help transform formal regulations into practices that MSMEs can understand and implement, while simultaneously reducing the digital divide and building user trust. Therefore, the effectiveness of facilitation must be assessed not only by the number of certificates successfully issued but also by the extent to which the process enhances the capacity and autonomy of MSME operators in accessing halal certification services.

Mentoring, Trust, and the Digital Autonomy of Business Owners

The research findings show that halal certification assistance not only helps business owners complete administrative steps but also fosters a learning process that influences digital confidence and independence. The relationship between Halal Product Process Facilitators (PPH) and business owners develops gradually. In the early stages, some business owners exhibited a relatively high level of dependence because they did not yet understand the procedures, were not yet accustomed to using the Halal Information System (SIHALAL), and were concerned about making mistakes when entering data. After receiving repeated explanations, hands-on practice, corrections, and support,

business owners began to show the confidence to try new things and the ability to use digital services more independently.

The findings show that the success of the mentoring program cannot be measured solely by the completion of applications or the issuance of halal certificates. A more important factor is the change in the participants' capabilities after going through the mentoring process. Business owners who initially only received assistance gradually began to take an active role in data entry, document preparation, and completing the various stages of the service process. One business owner explained:

"At first, I was afraid of filling it out incorrectly because I didn't really understand the system. After receiving guidance and having everything explained to me step by step, I felt more confident about trying. If there was anything I didn't understand, I would ask my mentor." *(MSME Informant-7, interview, July 2026).*

This statement indicates that trust is one of the prerequisites that enables business owners to feel confident interacting with digital systems. The fear of making mistakes is a form of uncertainty that can hinder action. The presence of a mentor creates a space for consultation, giving business owners a place to seek clarification when facing difficulties. Thus, the mentoring relationship not only facilitates the transfer of information but also provides a sense of security during the learning process. From a social capital perspective, this condition can be understood through the development *of trust* that grows from repeated interactions [29]. Trust enables business owners to openly discuss their difficulties, including when they do not yet understand the requirements or make mistakes when entering data. At the same time, the mentor gains a more comprehensive understanding of the business's situation, allowing them to provide appropriate assistance. Thus, trust functions as social capital that supports communication, learning, and problem-solving. The shift from fear of trying to the courage to use the system demonstrates that mentoring can support both the readiness to use technology and the digital learning process. This trust is not formed in the abstract but through concrete experiences when business owners receive assistance and successfully complete stages that were previously considered difficult. These successful experiences can then change business owners' perceptions of the complexity of halal certification. One informant stated:

"Before I had a mentor, I thought the process was extremely complicated. Once I received guidance, it turned out to be doable. The important thing is to understand the steps and not be afraid to ask questions." *(MSME Informant-8, interview, August 2026).*

This statement indicates a connection between interpersonal trust and self-confidence. In the early stages, trust in a mentor serves as the foundation for entrepreneurs to dare to try. After successfully completing a stage, the source of trust gradually shifts from external parties toward confidence in one's own abilities. In other words, trust in a mentor serves as the gateway to the development of an entrepreneur's self-confidence. This phenomenon can be explained through Bandura's concept *of self-efficacy* [30]. An individual's belief in their own abilities is not formed solely through verbal explanations but primarily through the experience of successfully carrying out an action. In the context of this study, the experience of entering data, uploading documents, following the SIHALAL steps, receiving feedback, and correcting errors constitutes a successful experience that strengthens *self-efficacy*. Entrepreneurs then no longer view technology as something entirely beyond their capabilities.

This process of increasing *self-efficacy* is evident in changes to the mentoring approach. In the early stages, the mentor's assistance was relatively intensive because

business owners needed explanations and guidance at nearly every step. However, as they gained experience, mentors began to reduce direct intervention and gave business owners the opportunity to try things on their own. One mentor explained:

"At first, many of them did ask us to help them fill out the forms. But after we explained the process, we guided them to try it on their own. If there were any mistakes, we corrected them. The goal was to ensure they didn't always have to wait for the mentor." *(PPH-4 Informant, interview, August 2026).*

This model demonstrates that effective mentoring takes the form of scaffolding—that is, support is provided more intensively when the user is not yet capable, and then gradually reduced as their abilities improve. The mentor does not take over all of the business owner's work but rather turns the process of completing and finalizing the certification into a learning experience. This model differs from mentoring that is solely focused on administrative completion, as the expected outcome is not merely the completion of the process but rather an increase in the user's capabilities.

From Jan van Dijk's perspective on *the digital divide*, these findings indicate that the success of service digitization cannot be judged solely by the availability of devices and internet access [31]. Business owners may have smartphones, internet connections, and even be accustomed to using social media, but they do not necessarily possess the skills to use digital administrative systems with specific procedures and data structures. Therefore, mentoring serves to transform access to technology into *effective use*—that is, the ability to use technology to achieve specific goals.

In the context of this study, digital self-reliance must also be understood in proportion to the situation. Self-reliance does not mean that business owners must be able to master every aspect of the technology or that they do not need any assistance at all. Self-reliance is more accurately defined as the ability to understand the steps that need to be taken, prepare data and documents, complete basic forms, identify errors, attempt to resolve issues, and know when to ask for help. One business owner stated:

"Now I know what data I need to prepare. If I want to register another product, I won't have to start from scratch again. I already know the process and which parts to pay attention to." *(MSME Informant 9, interview, September 2026).*

This statement indicates that mentoring results in the transfer of reusable capacity. The knowledge gained does not end with a single certification application but becomes experience that business owners can draw upon when facing future administrative requirements. This demonstrates a shift from situational assistance toward more sustainable capacity. Changes in capacity can also be observed in the communication patterns between business owners and mentors. In the early stages, communication mostly took the form of direct requests for assistance, whereas as their capabilities improved, communication shifted toward consultation and clarification. This shift is an important indicator that the mentoring relationship is beginning to move from *a dependency relationship* toward *a supportive relationship* [32]. One mentor remarked:

"If they're able to do it, we're actually happy for business owners to try it on their own. We're still open to answering their questions, but we don't have to handle every step of the process." *(PPH-5 informant, interview, September 2026).*

This explanation shows that the goal of mentoring is not to create new dependencies, but rather to build the capacity to use assistance appropriately. Mentors remain necessary when business owners face new challenges, procedural changes, or more complex issues. However, such assistance is no longer the only way to complete the process. Business

owners are beginning to develop the basic ability to take action on their own. This finding is relevant to the perspective *of capacity building* [33]. Mentoring fosters individual capacities that include the ability to obtain information, understand requirements, manage documents, use digital services, communicate with service providers, and correct data. These capacities have the potential to yield broader benefits than simply applying for halal certification, as the administrative and digital skills acquired can be applied to various other business needs.

In addition to boosting confidence in their ability to use technology, mentoring also contributed to a shift in business owners' perceptions of the halal certification process. Initially, some business owners viewed certification as a complex formal procedure fraught with the risk of error. After gaining firsthand experience, however, they began to perceive the procedure as a learnable process. These findings indicate that mentoring serves to reduce procedural uncertainty. From the perspective *of the Diffusion of Innovations theory*, uncertainty can hinder the acceptance and implementation of an innovation [29]. Direct interaction with mentors provides business owners with the opportunity to understand the benefits, procedures, and consequences of using the system. When business owners learn from experience that mistakes can be clarified and corrected, their perception of the risks associated with using the service also tends to decrease.

Entrepreneurs who already possess basic skills may still need assistance when they encounter new problems. Therefore, digital independence is not synonymous with having no need for support. Independence is better understood as the ability to reduce dependence, not to eliminate supportive relationships. An independent entrepreneur is one who is able to identify problems, attempt to solve them, and utilize a support network when the problem is beyond their capacity. This interpretation also broadens the concept of social capital in the process of digitizing public services. Support networks should not be viewed as a sign of user incompetence. On the contrary, the ability to know where to find help, establish communication, and ask for clarification at the right time is part of one's social capacity. Thus, digital independence can develop alongside the ability to leverage available social networks.

The integration of these perspectives leads to the proposition that trust is a crucial mechanism linking support to digital self-reliance. Support that is focused solely on completing administrative tasks may result in compliance and certification, but does not necessarily enhance users' capabilities. Conversely, support built on open communication, opportunities to try, corrections, and experiences of success enables administrative assistance to evolve into a capacity-building process.

The success of halal certification assistance must be measured across two dimensions simultaneously: output and capacity outcomes. Output relates to the completion of the application process and the acquisition of a certificate, while *capacity outcomes* relate to improving business owners' ability to obtain information, understand requirements, use SIHALAL, prepare documents, and handle simple issues more independently. This perspective positions assistance not merely as an administrative tool but as part of a strategy to empower MSMEs in navigating the transformation toward digital-based public services. Thus, effective assistance is that which gradually reduces dependence without eliminating access to support. Assistants remain a source of consultation when needed, but business operators have the capacity to take on an increasingly larger role in the certification process. This relationship shifts from one of being "assisted" to being "guided

toward self-sufficiency." It is this shift that serves as a key indicator of the development of digital self-reliance.

Ultimately, the research findings show that halal certification mentoring is a socio-digital process that connects trust, learning, and technological capacity. Trust provides the courage to try; experience builds skills; and skills enable the development of self-reliance. Thus, the digitization of halal certification for MSMEs is not merely about providing a service platform but requires a mentoring ecosystem capable of building user capacity in a sustainable manner. These findings confirm that the success of the digital halal service transformation is the result of the interaction between system quality, user capacity, and empowerment-oriented support models.

CONCLUSION

This study shows that Halal Product Process (PPH) facilitators play a strategic role in bridging the gap between MSME operators and the increasingly digitized halal certification system. The role of these facilitators is not limited to administrative assistance but also includes mediating information, interpreting regulatory requirements, facilitating the use of SIHALAL, and verifying the compliance of raw materials and production processes. The presence of these facilitators is crucial because the availability of information and access to technology do not automatically guarantee that business owners will be able to understand and carry out halal certification procedures independently.

Mentoring has also proven to contribute to building trust and enhancing the digital capacity of business owners. Intensive interaction, open communication, opportunities to experiment, and the experience of completing certification stages step by step gradually boost business owners' confidence in using digital services. This process demonstrates a shift from dependence on mentors toward the ability to perform basic steps independently. Thus, the success of the mentoring program is reflected not only in the completion of applications or the acquisition of halal certificates, but also in the increased understanding, digital skills, administrative capabilities, and *self-efficacy* of MSME entrepreneurs.

Conceptually, this study affirms that the success of halal certification digitization is the result of the interaction between digital systems, user capacity, and the quality of mentoring. PPH mentors can be positioned as *"bridging actors"* who connect regulations, technology, and the real-world conditions of MSMEs through an educational and empowering mentoring process. Therefore, digital-based halal certification policies must be accompanied by efforts to strengthen the capacity and quality of facilitators so that the guidance process does not stop at administrative completion but is able to foster sustainable digital self-reliance. This approach is crucial to ensure that the transformation of halal services not only increases the number of certifications but also strengthens MSMEs' ability to independently access and utilize digital public services.

In practice, periodic training is needed for PPH facilitators to strengthen their understanding of regulations, their skills in using SIHALAL, information communication strategies, and mentoring methods that encourage business owners to learn and experiment independently. This training must be accompanied by evaluations that not only measure the number of applications submitted or certificates successfully issued (*outputs*) but also assess improvements in the capacity of MSME operators (*outcomes*), such as their ability to prepare documents, navigate the basic steps of SIHALAL, identify simple obstacles, and recognize when assistance is needed. This *outcome-based* evaluation approach is crucial so that facilitators focus not only on completing the certification process but also on

developing business owners' capabilities in the long term. Thus, the transformation of digital halal services is expected not only to increase certification rates but also to strengthen the self-reliance of MSMEs in accessing and utilizing digital public services sustainably.

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