



# Strengthening the Halal Value Chain through Post-Disaster MSME Incubation in Central Sulawesi, Indonesia: An Evaluative Case Study Based on CIPP

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## ABSTRACT

This study evaluates how the PABETA incubation program strengthened the halal value chain of post-disaster MSMEs in Central Sulawesi, Indonesia. Using an evaluative case study design and the Context–Input–Process–Product (CIPP) framework, the study examines program relevance, implementation quality, and early outcomes. Data were collected retrospectively from program documents, participant outputs, activity records, and stakeholder feedback, and were analyzed using descriptive statistics and qualitative content analysis. The findings show that the program addressed four interrelated areas: business readiness, certification and compliance, digital marketing and distribution, and external market linkage. All 25 participating MSMEs completed Business Model Canvases and established professional social media accounts, while 18 adopted e-commerce platforms. Ten MSMEs initiated PIRT or halal-related certification processes, seven obtained PIRT certification, and nine reached investment readiness, with six attracting investor interests. These results suggest that integrated incubation can strengthen the upgrading of halal-oriented MSMEs, although longer-term mentoring is still needed to support sustained market performance.

## ABSTRAK

Penelitian ini mengevaluasi bagaimana program inkubasi PABETA memperkuat rantai nilai halal pada UMKM pascabencana di Sulawesi Tengah, Indonesia. Penelitian ini menggunakan desain studi kasus evaluatif dengan kerangka Context–Input–Process–Product (CIPP) untuk menilai relevansi program, kualitas implementasi, dan capaian awal. Data dikumpulkan secara retrospektif melalui dokumen program, luaran peserta, catatan kegiatan, dan umpan balik pemangku kepentingan, kemudian dianalisis menggunakan statistik deskriptif dan analisis isi kualitatif. Hasil penelitian menunjukkan bahwa program ini menjangkau empat area yang saling terkait, yaitu kesiapan usaha, sertifikasi dan kepatuhan, pemasaran dan distribusi digital, serta keterhubungan dengan pasar eksternal. Seluruh 25 UMKM peserta berhasil menyusun Business Model Canvas dan membangun akun media sosial profesional, sementara 18 UMKM mulai memanfaatkan platform e-commerce. Sebanyak 10 UMKM memulai proses pengurusan

PIRT atau sertifikasi halal; tujuh memperoleh sertifikat PIRT, dan sembilan mencapai kesiapan investasi, dengan enam di antaranya berhasil menarik minat investor. Temuan ini menunjukkan bahwa inkubasi terintegrasi dapat memperkuat peningkatan kapasitas UMKM berorientasi halal, meskipun pendampingan jangka panjang masih diperlukan untuk mendukung keberlanjutan kinerja pasar.



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## INTRODUCTION

Micro, small, and medium enterprises (MSMEs) play a strategic role in regional economic development by supporting employment, supporting household income, and strengthening community resilience. (Aisya & Syamsu, 2024; Sofyan et al., 2022). However, from the perspective of Islamic economics, the development of MSMEs is not only related to increasing productivity or increasing income. It is also closely related to strengthening the halal ecosystem that ensures product integrity, consumer trust, business legitimacy, and broader market participation. (Makhasi et al., 2025; Sofyan et al., 2023; Syamsu et al., 2025). Recent literature shows that the halal ecosystem is shaped by interactions between producers, regulators, certification bodies, financial institutions, consumers, and supporting institutions, all of which must work in coordination to maintain halal integrity and business sustainability. (Maulana et al., 2025; Muflihin & Fatchan, 2025; Nusran et al., 2025). Therefore, the empowerment of MSMEs in the context of the Muslim majority should be understood not only as an increase in business, but as part of a broader effort to strengthen a halal-oriented local economic system.

The halal value chain ranges from production and processing to certification, distribution, marketing, and governance. Therefore, the halal ecosystem requires not only religious compliance but also institutional coordination, traceability, and technological support. Comparative studies show that regulatory approaches differ across countries, with centralized and decentralized models resulting in different implications for the efficiency, inclusivity, and participation of MSMEs. (Zhang et al., 2026). In Indonesia, the halal economy has grown rapidly. However, the integration of business actors into the halal ecosystem remains uneven, especially among small businesses that often struggle to meet certification requirements, adopt digital tools, and respond to increasingly formal market standards. (Ansori et al., 2025; Fathoni et al., 2025). As a result, strengthening halal participation among MSMEs requires more than just normative awareness; This demands a practical support system that links regulation, training, certification, and market access.

This issue is very important for Indonesian MSMEs, many of which continue to face structural barriers to entering the halal-oriented market. Recent studies show that the intention to pursue halal certification is not only shaped by religiosity or awareness but also by administrative readiness, financial capacity, digital literacy, and perceived business benefits. (Fianto et al., 2025; Wahab et al., 2024). Other studies show that policy change alone is not enough when small businesses lack operational guidance, institutional support, and accessible certification pathways. (Putro et al., 2024; Rofiah et al., 2024). In practical terms, this means that halal certification for MSMEs should not be seen only as a legal obligation but as a process that requires literacy, facilitation, and institutional assistance. Without such support, many micro and small businesses remain outside the formal halal ecosystem even as they operate in a predominantly Muslim market.

At the same time, digitalization is becoming increasingly important in the development of halal-oriented MSMEs. Digital technologies support traceability, certification management, branding, customer communication, and broader market access. The halal supply chain literature highlights that digital tools, including platform-based marketing, traceability systems, and advanced technologies such as AI and blockchain, can strengthen operational trust and transparency. However, adoption remains uneven among small businesses. (Harsanto et al., 2024; Khan et al., 2025). Therefore, for MSMEs, digitalization is not only a technical problem but also a strategic driver of competitiveness in the halal economy. This argument is strengthened by recent evidence showing that halal certification, branding, and digital innovation work together to increase market legitimacy and strengthen consumer trust, especially in an increasingly competitive food market. (Dhakirah & Hidayatinnisa, 2026; Mohd Salleh et al., 2026).

From the business side, halal participation can also contribute to stronger MSME performance. Recent research in Indonesia shows that halal certification is associated with increased business credibility, stronger

customer trust, and better opportunities for market expansion, although the benefits may not always be immediately visible financially (Azizah et al., 2025). For this reason, MSME assistance programs should not only focus on entrepreneurial skills in general. However, they must also help companies translate halal compliance into business value through better planning, market communication, documentation, and digital readiness. This argument is particularly relevant for food-based MSMEs, where the legitimacy, safety, and halal assurance of products are closely related to consumer acceptance and business continuity.

These concerns are particularly relevant in Central Sulawesi, where post-disaster recovery requires not only the restoration of livelihoods but also the strengthening of the capacity of local companies. In this context, the PABETA Business Incubation Program is implemented to support MSMEs through training, mentoring, business model development, digital marketing assistance, business matching, and product certification support. Although the program was initially framed as a general incubation intervention, its structure also reflects key elements of strengthening the halal ecosystem, especially for food-based MSMEs that require certification readiness, stronger branding, and wider market access. This makes the program analytically important from an Islamic economic perspective, as it offers a practical example of how post-disaster MSME support can contribute to more formal, trusted, and market-ready participation in the halal economy.

Despite the growing literature on halal certification, halal value chains, and MSME empowerment, there are still important gaps. Most halal value chains include a series of value-creation activities from the selection of raw materials, processing, storage, packaging, distribution, marketing, to products received by consumers while maintaining halal integrity (Mohd, 2024). In this study, the strengthening of the halal value chain is operationalized through seven dimensions: (1) raw materials and suppliers; (2) production processes and facilities; (3) traceability; (4) Halal assurance system; (5) legality and certification; (6) storage and distribution; and (7) product information and halal market access (Muhlizoh & Noer, 2025).

Beyond the halal value chain, the Islamic economic perspective is employed to assess program quality through the principles of halal-tayyib, maṣlaḥah, al-ʿadl, al-taʾāwun, and amanah (Mayang et al., 2025). Halal-tayyib requires that products be not only halal in terms of their ingredients but also safe, clean, and processed responsibly. Maṣlaḥah directs the program toward tangible and sustainable benefits. Al-ʿadl demands proportional access to assistance, including for participants with limitations. Al-taʾāwun emphasises partnership among MSME actors, facilitators, the government, certification bodies, and the market. Amanah pertains to honesty of information, consistency of processes, and consumer protection (Sofiana et al., 2024).

A variety of literature, however, has recently focused on governance, certification barriers, digital technologies, or consumer behavior. At the same time, incubation studies often emphasize entrepreneurial development without explicitly linking it to participation in the halal ecosystem. (Fathoni et al., 2025; Harsanto et al., 2024; Nusran et al., 2025). As a result, there is still limited empirical research on how post-disaster incubation programs can strengthen business capacity while supporting halal readiness, certification orientation, and market legitimacy among MSMEs. This gap is important because, in regions recovering from disasters, business support must not only address survival and income recovery, but also long-term inclusion in more formal and competitive value chains.

This research overcomes these gaps by evaluating the Central Sulawesi PABETA Business Incubation Program through the Context-Input-Process-Product (CIPP) framework. The study positions incubation not only as a business development activity in general but as a strategic intervention that can strengthen participation in the halal ecosystem through improved business planning, digital capabilities, certification support, and market access. In particular, this study examines: (1) the context that shaped the program in Central Sulawesi after the disaster; (2) the adequacy of the input, including the composition of participants, mentors, and program design; (3) the process of implementing training, mentoring, digital support, and certification facilitation; and (4) outputs generated in business model development, digital presence, certification progress, and investment readiness. Thus, this study contributes to the literature on Islamic economics and MSME development by showing how post-disaster incubation can serve as a practical mechanism to strengthen local halal ecosystems.

**Table 1.** Evaluation Framework

| Stage      | Indicator Examples                                                   | Evaluation Questions                                                     |
|------------|----------------------------------------------------------------------|--------------------------------------------------------------------------|
| Input      | Mentors, budget, modules, institutional networks, participant data   | Are the resources aligned with needs and available on time?              |
| Activities | Training, mentoring, halal assessment, legal facilitation, marketing | Are the activities implemented as planned and reaching all participants? |

|                 |                                                                                                 |                                                         |
|-----------------|-------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| Output          | Business documents, packaging improvements, digital accounts, permit/certification registration | What direct products are generated from the assistance? |
| Initial Outcome | Increased knowledge, document readiness, process changes                                        | What changes occur in business behavior and systems?    |
| Halal Outcome   | Verified materials, traceability, halal procedures, certification                               | Is halal integrity maintained systematically?           |
| Stage           | Indicator Examples                                                                              | Evaluation Questions                                    |

## RESEARCH METHODS

This study uses an evaluative case study design, using the Context–Input–Process–Product (CIPP) framework, to assess the Central Sulawesi PABETA Business Incubation Program systematically. The CIPP model was chosen because it provides a structured framework for evaluating program relevance, resource adequacy, implementation quality, and observable outcomes. At the same time, the evaluative case study approach allows for an in-depth examination of real interventions in their actual context. This design is appropriate because this study does not aim to test cause-effect relationships, but rather to assess the advantages, implementation, and initial results of incubation programs for MSMEs in post-disaster settings, as is commonly recommended in program evaluation research. (Stufflebeam & Coryn, 2014; Stufflebeam & Zhang, 2017; Yin, K., Robert & Campbell, T. Donald, 2018).

The researcher acts as an independent evaluator and is part of the program assistance implementation team. The study was conducted retrospectively from December 2025 to January 2026, following the completion of the main incubation cycle. The case studied is the PABETA Business Incubation Program which is carried out in Central Sulawesi, Indonesia, especially in Palu City and surrounding districts that are affected. The unit of analysis is the program as a whole, including its design, implementation, and direct output. This program involves 25 MSMEs, through a selection process from the organizing team, namely by looking at business profiles, business proposals, products and commitments, then completing intensive training for five days, followed by mentoring and business matching activities. These MSMEs represent the food processing and agricultural sectors, including businesses that produce fried onions, coffee, chocolate, and agriculture. This composition makes the case relevant not only for the analysis of MSME development but also for examining business readiness in food-related sectors, where certification, branding, and market legitimacy are critical.

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**Table 2.** Data collection indicators and instruments

| Dimensions          | Operational Indicators                                               | Data Source                         | Measurement Form                       |
|---------------------|----------------------------------------------------------------------|-------------------------------------|----------------------------------------|
| Halal raw materials | List of ingredients and suppliers; Proof of Critical Material Status | Observations, documents, interviews | 0 = not yet; 1 = not yet; 2 = Complete |
| Production process  | Separation of materials/equipment; hygiene; Written procedure        | Observation and check-int           | 0–2                                    |
| Traceability        | Recording of material origin, batch, process, and distribution       | Documents and interviews            | 0–2                                    |

|                               |                                                                 |                                                     |                 |
|-------------------------------|-----------------------------------------------------------------|-----------------------------------------------------|-----------------|
| <b>Halal Guarantee</b>        | Halal policy, person in charge, internal evaluation             | Halal policy, person in charge, internal evaluation | 0–2             |
| <b>Legality</b>               | NIB, relevant permits, PIRT for food                            | Official documents                                  | Status and date |
| <b>Halal certification</b>    | Not yet, preparation, submission, audit, publication            | Documents and confirmation                          | Process stage   |
| <b>Market and information</b> | Labels, product claims, digital channels, halal market networks | Observations and documents                          | 0–2             |

*Source: Notes on the implementation of the program, processed by the author, 2025*

To ensure triangulation and strengthen the credibility of the evaluation. The first source consists of program documentation, including official reports, training modules, mentoring guidelines, administrative records, participant registration data, and monitoring forms. The second source consists of participant output, especially 25 Business Model Canvases, pitch decks, digital marketing content, and certification-related documents produced during or after the incubation process. Third sources include program activity records, such as attendance data, mentoring logs, schedules, and business matching documentation. The fourth source involves stakeholder feedback, including mentor notes, program manager observations, and participant responses collected after the training phase. These sources were chosen because they provide evidence not only of program delivery, but also of participant readiness, digital adaptation, certification progress, and market linkages.

Data analysis was carried out in two stages. First, descriptive quantitative analysis is used to summarize measurable program output, including training completion, Business Model Canvas completion, digital platform adoption, certification initiation, and investment readiness. Frequency and percentage are used to present these results clearly. Second, qualitative content analysis is applied to participant outputs and program records to assess the quality of business planning, digital communication, certification progress, and evidence of capability development. The Business Model Canvas was examined for completeness, specificity, coherence, and innovation, while the digital output was reviewed for branding consistency, professionalism, and use of customer communication features.

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To improve trust, this study used data triangulation across documents, participant outputs, activity records, and stakeholder feedback. However, some limitations must be acknowledged. The study was retrospective, did not include a comparison group, and focused primarily on immediate and short-term outcomes rather than long-term business performance. As a result, findings should be interpreted as an evaluation of program relevance, implementation quality, and initial outcomes, rather than as conclusive evidence of long-term causal impact. Even so, this design is still appropriate to explain how the incubation program can strengthen the readiness of MSMEs and support the gradual entry into a more structured and halal-oriented value chain in a post-disaster context.

## RESULTS AND DISCUSSION

### The Needs of MSMEs and the Relevance of the Integrated Incubation Model

Evaluation of the Central Sulawesi PABETA Business Incubation Program shows that the intervention produces meaningful short-term results in the four dimensions of CIPP. More importantly, the findings suggest that the program not only increases general entrepreneurial capacity but also strengthens some of the conditions necessary for MSME participation in a more structured halal-oriented market environment. This interpretation is consistent with the design of evaluative case studies, which emphasize program relevance, implementation quality, and initial outcomes rather than causal testing. (Stufflebeam & Coryn, 2014; Stufflebeam & Zhang, 2017; Yin K. Robert & Campbell T. Donald, 2018).

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From the perspective of Islamic economics, this constraint is crucial because participation in the halal-oriented market depends not only on production capacity but also on the readiness of documentation, certification pathways, and credible market communication. Recent studies also show that MSMEs often experience regulatory complexity, limited halal literacy, weak digital capabilities, and inadequate institutional facilitation when trying to integrate into the halal ecosystem. (Fathoni et al., 2025; Nusran et al., 2025; Zhang et al., 2026). In this case, the design of the PABETA program is very relevant. By combining Business Model Canvas development, digital training, certification support, mentoring, and business matching, the program addresses the needs of participants in an integrated rather than fragmented manner. This supports the view that post-disaster incubation can serve not only as a recovery mechanism but also as a platform that allows for business formalization and stronger market legitimacy.

**Table 3.** MSME Needs and Program Responses to Strengthening the Halal Ecosystem

| MSME needs                     | n  | %  | Response program  |
|--------------------------------|----|----|-------------------|
| Program Responsiveness         | 22 | 88 | Business matching |
| Digital Marketing Capabilities | 20 | 80 | Digital training  |
| Product Certification          | 18 | 72 | Digital training  |
| Business Planning              | 17 | 68 | BMC development   |
| Market Access                  | 15 | 60 | Business matching |
| Supply Chain Constraints       | 12 | 48 | Mentoring         |
| Program Responsiveness         | 22 | 88 | Business matching |

Sources: Program needs assessment notes, processed by the author, 2025.

Table 3 above described that the most urgent needs of participants are concentrated on access to capital, digital capabilities, certification, and business planning. This justifies the integrated design of the program and suggests that interventions respond to practical business bottlenecks rather than offering generic training of limited relevance.

## Participant Composition and Quality of Implementation

Input evaluation shows that the cohort of participants is aligned with the program's objectives. Data analysis was carried out using frequency and percentage distributions to describe the profile of program participants. This case involved 25 MSMEs from the food processing and agricultural sectors, with food-based companies being the majority. The fried onion business accounted for 48% of the participants, the coffee business 36%, the chocolate processing culinary products 12%, and the farming industry 4%. This sectoral profile is important because food-based MSMEs are more directly related to branding, food safety, product legitimacy, and certification readiness than many non-food companies. This cohort also reflects moderate gender diversity and varying levels of business maturity, making the program relevant for small, growing and more established companies.

**Table 4.** Participant Profile

| Characteristic    | Category    | n  | %  |
|-------------------|-------------|----|----|
| Sector            | Fried onion | 12 | 48 |
| Sector            | Coffee      | 9  | 36 |
| Sector            | Chocolate   | 3  | 12 |
| Sector            | Agriculture | 1  | 4  |
| Gender            | Male        | 8  | 32 |
| Gender            | Female      | 17 | 68 |
| Business maturity | < 2 years   | 8  | 32 |

|                   |           |    |    |
|-------------------|-----------|----|----|
| Business maturity | 2–5 years | 11 | 44 |
| Business maturity | > 5 years | 6  | 24 |
| Location          | Palu City | 15 | 60 |
| Location          | Sigi      | 6  | 24 |
| Location          | Donggala  | 4  | 16 |

Source: Data of program participants, processed by the author, 2025.

The process findings also show a strong quality of implementation. All participants completed five days of intensive training; 92% rated it as excellent, and post-training support continued through 187 mentoring sessions, an average of 7.5 sessions per participant. In addition, all participants created Instagram Business accounts, 18 adopted e-commerce platforms, and business matching resulted in 37 initial conversations and 15 follow-up meetings. These figures show that incubation serves as an ongoing companion rather than a one-time workshop. This is important because program evaluation studies consistently show that MSME capacity building is more effective when technical training is followed by mentoring, practice, and repeated problem-solving support. (Dalampira et al., 2022; Mohamad et al., 2019; Striebing et al., 2019).

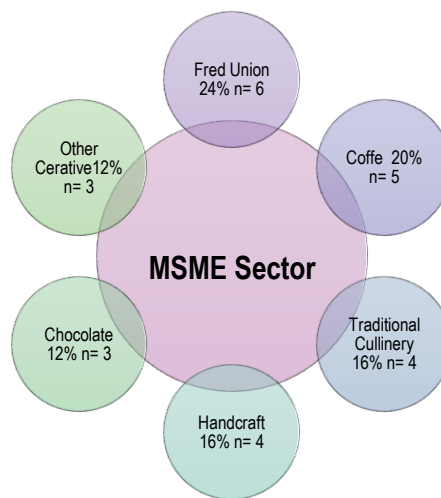


**Figure 1.** Composition of the MSME Sector.

This figure shows that the participant group is dominated by food-based MSMEs, underlining the relevance of branding, certification, and market access support in the incubation process.

**Table 5.** Program Implementation Performance

| Process Component        | Indicator                                    | Achievement                                |
|--------------------------|----------------------------------------------|--------------------------------------------|
| Training Completion      | Five-day completion rate                     | 25/25 (100%)                               |
| Participant Satisfaction | Rated as very good                           | 23/25 (92%)                                |
| Mentoring Sessions       | Total sessions conducted                     | 187 sessions (average 7.5 per participant) |
| Instagram Orientation    | Business accounts created                    | 25/25 (100%)                               |
| Marketplace Adoption     | Tokopedia/Shopee accounts                    | 18/25 (72%)                                |
| Business Matching        | Initial conversations and follow-up meetings | 37 conversations; 15 follow-up meetings    |

Source: Program implementation notes, processed by the author, 2025.

The results of this process show that the program successfully translates its design into implementation. They also support the view that effective incubation depends not only on content delivery but also on interaction, feedback, and ongoing networking that helps participants apply what they have learned (Gupta, 2025; Moroz et al., 2024).

### Strengthening the Halal Value Chain through Incubation

Product evaluation shows that the program strengthens the halal value chain of participating MSMEs through four interrelated dimensions: upstream business readiness, certification and compliance support, digital marketing and distribution capabilities, and external market linkage. This interpretation is important because the halal value chain is not limited to certification alone; it encompasses interrelated production, certification, distribution, and marketing processes within the broader institutional ecosystem (Sochimin et al., 2025; Harsanto et al., 2024).

This program improves business readiness through the development and mentoring of the Business Model Canvas. All 25 MSMEs completed the Business Model Canvases, with strong results in completeness (100%), specificity (92%), and coherence (84%), although innovation remained more moderate (56%). These findings suggest that incubation is effective in strengthening internal business organization and planning disciplines. The improvement is important because structured business preparation forms the basis for compliance, branding, and market engagement later in the day. Previous studies have also shown that incubation often improves the execution capabilities and structure of the business faster than deeper innovation capacity. (Luo, 2024; Moroz et al., 2024; Osterwalder & Pigneur, 2010).

At the compliance level, certification support is one of the most significant program outcomes. Ten participants initiated the certification process related to PIRT or halal, and seven obtained PIRT certification during the observation period. Although certification advances are more limited than digital adoption, these outcomes remain important because formal compliance generally requires stronger administrative, technical, and procedural readiness. The results are consistent with previous findings that MSMEs often struggle with certification due to cost, documentation burden, literacy limitations, and institutional complexity, especially in decentralized regulatory settings. (Putro et al., 2024; Rofiah et al., 2024; Siriwardane et al., 2025; Solfanelli et al., 2021). In this study, certification facilitation helped move some participants from general awareness to tangible compliance actions, a central step in participation in the halal value chain.

The level of marketing and distribution, digital results is very substantial. All participants built a professional social media presence, 22 upgraded to WhatsApp Business, and 18 entered e-commerce platforms. These results show that the program moves participants beyond basic digital awareness towards practical digital communication and wider market access. For MSMEs, especially in the food sector, digital presence is not solely promotional; It also supports credibility, customer interaction, and market visibility. This is in line with broader evidence showing that digital technologies are increasingly shaping SME competitiveness and consumer trust, especially when used for product presentation, branding, and communication. (Camps et al., 2026; Esposito et al., 2022; Hein et al., 2026). In the context of the halal market, digital communication also contributes to branding, transparency, and building trust. (Dhakirah & Hidayatinnisa, 2026; Mohd Salleh et al., 2026).

At the level of ecosystem linkage, this program produces selective but meaningful investment results and market access. Nine MSMEs are considered ready to pitch, six attract investor interest, and two receive initial funding commitments. This suggests that the program does not benefit all participants equally, but does manage to prepare some of the efforts for broader external involvement. Such selectivity makes sense because investment readiness typically depends on the maturity of the business, growth potential, and the ability of the entrepreneur to present a coherent value proposition, not just on participation in training. (Gupta, 2025; Moroz et al., 2024). These results show that strengthening the halal value chain also requires external linkages with market participants, investors, and supporting institutions.

**Table 6.** Key Program Outcomes

| Outcome dimension         | Indicator                 | Achievement  |
|---------------------------|---------------------------|--------------|
| <b>Business planning</b>  | Completed BMC             | 25/25 (100%) |
| <b>BMC quality</b>        | Complete components       | 25/25 (100%) |
| <b>BMC quality</b>        | High specificity          | 23/25 (92%)  |
| <b>BMC quality</b>        | Strong coherence          | 21/25 (84%)  |
| <b>BMC quality</b>        | Innovation element        | 14/25 (56%)  |
| <b>Digital capability</b> | Instagram Business active | 25/25 (100%) |
| <b>Digital capability</b> | Marketplace presence      | 18/25 (72%)  |
| <b>Digital capability</b> | WhatsApp Business use     | 22/25 (88%)  |

|                               |                            |                       |
|-------------------------------|----------------------------|-----------------------|
| <b>Certification progress</b> | PIRT/Halal initiated       | 10/25 (40%)           |
| <b>Certification progress</b> | PIRT completed             | 7/10 initiated (70%)  |
| <b>Investment readiness</b>   | Pitch-ready MSMEs          | 9/25 (36%)            |
| <b>Investor response</b>      | Concrete investor interest | 6/9 pitch-ready (67%) |
| <b>Funding signal</b>         | Preliminary commitments    | 2 MSMEs               |

Source: Program participant outputs and monitoring records, processed by the author, 2025.

Further, the Figure 2 illustrates how the incubation program supports MSMEs from internal business preparation to digital market presence, certification progress, and external market linkage. This figure was useful because it captures the cumulative path of change more clearly than separate digital charts and certifications. The sequence starts with training and mentoring, moves on to BMC completion and digital onboarding, and then progresses to external certification and validation. This gradual path reinforces the idea that strengthening MSMEs is gradual and not simultaneous in all dimensions.

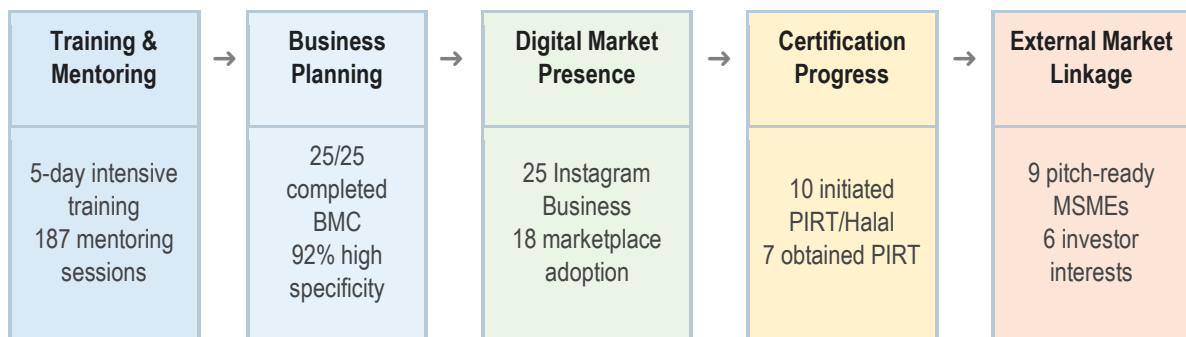


**Figure 2.** Halal Value Chain Strengthening Path.

Source: Program monitoring records, processed by the authors, 2025.

## Discussion

Overall, the results of the study show that the PABETA Program plays a role more than just conventional entrepreneurship training. This program functions as a business incubation mechanism that is able to gradually increase the readiness of MSMEs in various important aspects, such as the preparation of business plans, business digitalization, halal certification, market access, and readiness to obtain investment. Based on the results of the evaluation, the highest achievements were in the aspects of business planning and digital orientation, while the indicators of halal certification and investor involvement showed relatively lower achievements. These findings indicate that internal capacity building can be achieved in the short term, while achievements that require external validation and collaboration with others require longer mentoring time.

The findings are in line with the concept of business incubation which emphasizes that MSME development requires an integrated approach, not partial interventions. Business incubators not only provide training, but also provide mentoring, network access, consulting, and facilitation of the resources needed by business actors. The results of this study are consistent with (Lenihan, 2011; Moroz et al., 2024; Stufflebeam & Zhang, 2017) who explained that the success of incubation is determined by the integration of various support services so that it is able to increase business capacity in a sustainable manner. This shows that for food-based MSMEs, digital capabilities and certifications should not be treated as peripheral elements. They are centers for business improvement because they directly affect market trust, compliance, and access to a wider range of commercial channels. (Camps et al., 2026; Esposito et al., 2022; Mohd Salleh et al., 2026; Nur Azizah et al., 2025).

When compared to the MSME incubation program in Malaysia, the achievements of the PABETA Program show a relatively similar pattern. Various studies report that improving managerial skills, developing business models, and adopting digital technologies is generally faster than indicators that require the fulfillment of administrative requirements, such as product certification, access to formal financing, and investment (Hackett & Dilts, 2004, Fithri et al., 2025). Thus, the results of the PABETA Program show that internal capacity

building is an important initial stage before participants are able to achieve more complex business development.

The results also reveal the limitations of short-cycle incubation. Certification is progressing slower than digital adoption, and only a fraction of the group is achieving investment readiness. This suggests that while intensive training and mentoring are effective in initiating change, they are not enough to ensure a full transition to formal compliance or broader market expansion. In practical terms, future programs should expand post-training support, especially for certification completion, conversion of digital presence into actual sales, and long-term business relationships. These implications are also consistent with recent research on the halal ecosystem, which emphasizes that MSME participation depends on sustainable growth, institutional coordination, and support to navigate regulatory complexities. (Fathoni et al., 2025; Nusran et al., 2025; Zhang et al., 2026).

These findings yield three practical implications. First, MSME incubation in post-disaster settings should be designed as an integrated model that connects business planning, digitalization, certification, and market linkage, rather than as an isolated training module. Second, mentoring must continue beyond the intensive phase as the transition from awareness to implementation, especially in certification and digital market utilization, requires ongoing support. Third, future incubation programs should adopt a phased approach, recognizing that not all MSMEs are equally ready for certification or investor involvement at the same time. In this sense, the program is effective in generating initial capability development and market preparation, but long-term mentoring is still needed to achieve deeper and more sustainable business transformation.

## CONCLUSION

This study concludes that the Central Sulawesi PABETA Business Incubation Program plays an important role in strengthening the readiness of MSMEs in the post-disaster context. Through an integrated incubation model, the program addresses interconnected constraints related to business planning, digital capabilities, certification support, and market linkage. These findings show that all 25 participating MSMEs completed Business Model Canvases and built a professional social media presence. At the same time, 18 adopted e-commerce platforms, 10 started the PIRT-related or halal certification process, seven obtained PIRT certification, and nine achieved investment readiness. These results show that the program is effective in promoting the improvement of start-up businesses and in increasing the readiness of MSMEs to participate in a broader and more formal market environment. In this sense, the findings suggest that strengthening MSMEs in post-disaster areas can be attributed to broader efforts to increase market legitimacy, consumer confidence, and formal participation in halal-oriented business systems. Overall, this study contributes to the literature on Islamic economics and MSME development by showing that post-disaster incubation can function not only as a recovery intervention but also as a pathway to strengthen halal value chains. Therefore, future programs should adopt a gradual and integrated approach that combines business planning, digitalization, certification assistance, and market linkage, so that early improvements can translate into long-term business resilience and inclusive economic development.

However, the study also shows that business improvement does not develop evenly across all dimensions. Business planning and digital onboarding are achieved more broadly, while the completion of external market certifications and validation remains more limited. This suggests that formal compliance and ecosystem linkages require more time, stronger institutional support, and ongoing assistance beyond intensive training periods. Therefore, while the program succeeds in generating direct output and supporting the development of initial capabilities, a deeper and more sustainable transformation will depend on expanded mentoring, stronger relationships with certification bodies, and follow-up support for digital market conversion and business expansion.

## Author's Contributions

Nurul Mufida A. Lasapi: Conceptualization, Methodology, Investigation

Nur Syamsu: Data curation, Formal analysis, Writing original draft, review & editing

M. Hidayat: Research method, validation, review & editing

Fatma: Research method, validation, review & editing

Dewi Salmita: Research method, validation, review & editing

All authors have read and approved the final version of the manuscript

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### Declarations of Ethical Considerations

Participation in the study was voluntary, and informed consent was obtained from all participants prior to the interviews. Participants' identities were anonymized using respondent codes to ensure confidentiality.

### Use of artificial intelligence (AI)

The authors declare that no generative artificial intelligence (AI) tools were used in the preparation, analysis, or writing of this manuscript.

### Conflict of Interest

The authors declare no conflicts of interest.

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### REFERENCES

- Aisya, S., & Syamsu, N. (2024). Emerging Themes and Research Directions in Halal Fashion: A Bibliometric Study. In *Equilibrium: Jurnal Ekonomi Syariah*, 12(1), 141-167. <https://doi.org/10.21043/equilibrium.v12i1.23205>
- Ansori, N., Widiawanti, E., & Ahmad Fauzan Khafidya Rizqi, H. (2025). A bibliometric of halal supply chain: Food performance mapping of micro, small, and medium enterprises in Indonesia. In M. H.M., C. P., N. I., & M. A. (Eds.), *EPJ Web of Conferences* (Vol. 344). EDP Sciences. <https://doi.org/10.1051/epjconf/202534401017>
- Azizah, S. N., Koeswinarno, K., Salam, A. N., Ansyah, R. H. A., Kustini, K., Atieqoh, S., & M., F. (2025). Linking halal certificate and micro, small and medium enterprises (MSMEs) performance in Indonesia. *International Journal of Islamic and Middle Eastern Finance and Management*, 18(6), 1271–1290. <https://doi.org/10.1108/IMEFM-12-2023-0463>
- Camps, C., Kraus, S., Thomas, A., Tiberius, V., & Jones, P. (2026). Digital Entrepreneurship: A review, research synthesis, and development of a framework. *Technology in Society*, 84(2), 245. <https://doi.org/10.1016/j.techsoc.2025.103124>
- Cetindamar, D., Shirahada, K., & Saygin, Y. (2026). Managing disasters with advanced technology solutions: Introduction to the special issue. *Technology in Society*, 85. <https://doi.org/10.1016/j.techsoc.2025.103180>
- Dalampira, E.-S., Tsoukalidis, I., Lazaridou, D., Nikouli, S., Livadiotis, A., & Michailidis, A. (2022). Investigating technology transfer gaps through Farmers Field School. *European Journal of Interdisciplinary Studies*, 14(12), 193–206. <https://doi.org/10.24818/ejis.2022.29>
- Dhakirah, S., & Hidayatinnisa, N. (2026). Halal Branding, Consumer Trust, and Digital Innovation in the Global Halal Economy. In *Integrating Halal Principles Into Modern Supply Chain Strategies* (pp. 245–270). IGI Global. <https://doi.org/10.4018/979-8-3373-4197-2.ch008>
- Esposito, B., Sessa, M. R., Sica, D., & Malandrino, O. (2022). Service innovation in the restaurant sector during COVID-19: digital technologies to reduce customers' risk perception. *TQM Journal*, 34(7), 134–164. <https://doi.org/10.1108/TQM-01-2022-0016>
- Fathoni, M. A., Priyatno, P. D., Wiryanto, F. S., & Rachbini, W. (2025). Unlocking barriers and strategies of halal certification for micro and small enterprises in Indonesia: Analytic network process approach. *Problems and Perspectives in Management*, 23(1), 169–180. [https://doi.org/10.21511/ppm.23\(1\).2025.13](https://doi.org/10.21511/ppm.23(1).2025.13)
- Fianto, B. A., Fauzi, F. P., Suprayogi, N., Filianti, D., Gan, C., & Anisha, A. I. I. N. (2025). Factors influencing behavior intention to obtain halal certificate: study on MSMEs in Indonesia and Malaysia. *Journal of*

- Islamic Marketing*, 17(1), 160–190. <https://doi.org/10.1108/JIMA-09-2024-0446>
- Gupta, V. (2025). Building regional entrepreneurial ecosystems: Lessons from Germany's Havel Valley community-driven initiatives. *Journal of Open Innovation: Technology, Market, and Complexity*, 11(4), 576. <https://doi.org/10.1016/j.joitmc.2025.100669>
- Hackett, S. M., & Dilts, D. M. (2004). A real options-driven theory of business incubation. *The journal of technology transfer*, 29(1), 41–54. <https://doi.org/10.1023/B:JOTT.0000011180.19370.36>
- Harsanto, B., Farras, J. I., Firmansyah, E. A., Pradana, M., & Apriliadi, A. (2024). Digital technology 4.0 on halal supply chain: a systematic review. *Logistics*, 8(1), 21. <https://doi.org/10.3390/logistics8010021>
- Hein, N., Münter, M. T., & Zimmermann, V. (2026). Green, digital, or twin strategic orientation: What drives environmental sustainability and digitalization in German innovative SMEs? *Journal of Innovation & Knowledge*, 12, 100896. <https://doi.org/10.1016/j.jik.2025.100896>
- Khan, N., Falahat, M., Ullah, I., Sikandar, H., & Van, N. T. (2025). Technological innovation for religious compliance: a framework for AI and blockchain implementation in halal food supply chains. *Journal of Islamic Marketing*, 17(5), 1839–1866. <https://doi.org/10.1108/JIMA-04-2025-0263>
- Leknoi, U., Painmanakul, P., Chawaloeshonsiya, N., Wimolsakcharoen, W., Samritthinanta, C., & Yiengthaisong, A. (2024). Building sustainable community: Insight from successful waste management initiative. *Resources, Conservation and Recycling Advances*, 24. <https://doi.org/10.1016/j.rcradv.2024.200238>
- Lenihan, H. (2011). Enterprise policy evaluation: Is there a “new” way of doing it? *Evaluation and Program Planning*, 34(4), 323–332. <https://doi.org/10.1016/j.evalprogplan.2011.03.006>
- Luo, M. (2024). Construction and application of a core competitiveness evaluation index system for public health personnel training based on the CIPP model. *Human Systems Management*, 43(5), 707–722. <https://doi.org/10.3233/HSM-230066>
- Makhazi, G. Y. M., Syamsu, N., Aisya, S., & Hariyanto, H. (2025). Discovering halal tourism's footprints: a bibliometric perspective on business research using scopus data (1997–2023). *Malaysian Journal of Syariah and Law*, 13(3), 797–818. <https://doi.org/10.33102/mjsl.vol13no3.681>
- Maulana, H., Thaker, M. A. B. M. T., Zarkasyi, M. R., Taufani, M. K., & Harahap, S. A. R. (2025). Determinants of Pentahelix Model in Developing the Halal Industry in Indonesia: Analytic Network Process (ANP) Approach. *Indonesian Journal of Halal Research*, 7(1), 47–61. <https://doi.org/10.15575/ijhar.v7i1.34911>
- Mayang, S., Mustika, A., & Puspita, P. (2025). Integrating Halal Awareness and Islamic Economic Values : A Conceptual Framework for Muslim Students' Consumption Behavior. *International Journal of Islamic Economics P-ISSN:*, 7(2), 120–134. <https://doi.org/10.32332/ijie.v7i02.12102>
- Mohamad, A., Hashim, N., & Ishak, A. K. (2019). Evaluating the implementation process of entrepreneurship program in nurturing entrepreneurial thinking among students of higher learning institutions. *Journal of Advanced Research in Dynamical and Control Systems*, 11(5), 496–504. Retrieved from <https://www.researchgate.net/publication/336961301>
- Mohd, M. D. S. (2024). The Objective of Halal Supply Chain : Merging the Shariah Perspective and the Industrial Requirements. *Journal of Academic Research In Business And Social Sciences*, 14(12), 3878–3896. <https://doi.org/10.6007/IJARBS/v14-i12/23772>
- Mohd Salleh, H., Azmi, N. A. N., & Mohd Noor, N. (2026). Halal certification and global market access. In *Beyond Halal: Exploring Dietary Preferences, Novel Ingredients and Techniques* (pp. 503–526). Elsevier. <https://doi.org/10.1016/B978-0-443-30058-5.00006-7>
- Moroz, P. W., Sierra, O., & Anderson, R. (2024). A structured review of start-up accelerator performance measurement: an integrated entrepreneurial program evaluation approach. *Entrepreneurship and Regional Development*, 36(3–4), 460–488. <https://doi.org/10.1080/08985626.2023.2298974>
- Muflihini, H., & Fatchan, I. N. (2025). Halal Value Chain Model in Halal Ecosystem of Malaysia. *Journal of Distribution Science*, 23(5), 97–112. <https://doi.org/10.15722/jds.23.05.202505.97>
- Muhlizoh, F., & Noer, A. (2025). JEBIS : Jurnal Ekonomi dan Bisnis Islam Halal Value Chain: A Bibliometric Analysis. *Jurnal Ekonomi Dan Bisnis Islam*, 11(1), 22–48. <https://doi.org/10.20473/jebis.v11i1.61557>
- Nur Azizah, S., Koeswinarno, K., Nur Salam, A., Ansyah, R. H. A., Kustini, K., Atieqoh, S., & M, F. (2025). Linking halal certificate and micro, small and medium enterprises (MSMES) performance in Indonesia. *International Journal of Islamic and Middle Eastern Finance and Management*, 18(6), 1271–1290. <https://doi.org/10.1108/IMEFM-12-2023-0463>
- Nusran, M., Noor, M. A. M., Marasabessy, S. A., & Mel, M. (2025). Sustainable Development Platform for a Halal Ecosystem: An Alternative Solution. *Industrial Engineering and Management Systems*, 24(4), 611–

623. <https://doi.org/10.7232/iems.2025.24.4.611>
- Osterwalder, A., & Pigneur, Y. (2010). *Business model generation: A handbook for visionaries, game changers, and challengers*. London: John Wiley & Sons.
- Putro, M. Z. A. E., Fakhruddin, M., & Mardamin, A. (2024). Halal Certification for Small Scale Enterprise in Indonesia: Policy Changing Impacts. *International Journal of Islamic Thought*, 25, 78–84. <https://doi.org/10.24035/ijit.25.2024.287>
- Rofiah, K., Safira, M. E., & Rosele, M. I. (2024). The Effectiveness of Accelerating Halal Product Certification: Regulations and Companions. *Journal of Human Rights, Culture and Legal System*, 4(2), 449–476. <https://doi.org/10.53955/jhcls.v4i2.203>
- Siriwardane, T., Freytag-Leyer, B., & Janssen, J. (2025). Evaluating rural farming livelihood outcomes from sustainability standard certification practices by smallholder tea growers in Sri Lanka. *Environment, Development and Sustainability*. <https://doi.org/10.1007/s10668-025-06810-3>
- Sofiana, R., Utama, S., & Rohim, A. (2024). The Problems of Halal Certification Regarding Consumer Protection in Malaysia and Indonesia. *Journal of Human Rights, Culture and Legal System*, 1(3), 180–193. <https://doi.org/10.53955/jhcls.v1i3.16>
- Sofyan, S., Arifin, S., Sofyan, A. S., Syamsu, N., Mansyur, A., Fauz, A., & Waluya, A. H. (2023). Understanding the Impact of Natural Disaster in Micro, Small, and Medium Enterprises in Halal Food Sector. *Indonesian Journal of Islamic Literature and Muslim Society*, 6(2), 30-47. <https://doi.org/10.22515/islimus.v6i2.6219>
- Sofyan, S., Nursyamsu, N., Sofyan, A. S., Mansyur, A., Aisya, S., Noval, N., & Nurfitriani, N. (2022). Evaluating Indonesian Islamic Financial Technology Scholarly Publications: A Bibliometric Analysis. *Ikonomika*, 7(2), 233. <https://doi.org/10.24042/febi.v7i2.15552>
- Solfanelli, F., Ozturk, E., Pugliese, P., & Zanolli, R. (2021). Potential outcomes and impacts of organic group certification in Italy: An evaluative case study. *Ecological Economics*, 187, 107107. <https://doi.org/10.1016/j.ecolecon.2021.107107>
- Striebing, C., Schmidt, E. K., & Palmén, R. (2019). Pragmatic ex-ante evaluation using an innovative conceptual framework: The case of a high-tech entrepreneurship program for women. *Evaluation and program planning*, 77, 101714. <https://doi.org/10.1016/j.evalprogplan.2019.101714>
- Stufflebeam, D. L., & Coryn, C. L. S. (2014). *Evaluation theory, models, and applications* (2nd ed.). Jossey-Bass.
- Stufflebeam, D. L., & Zhang, G. (2017). *The CIPP evaluation model: How to evaluate for improvement and accountability*. Guilford Press.
- Syamsu, N., Aisya, S., Fitriani, N., Ikhrum, M., & Ismail, N. (2025). Beyond Religious Boundaries: Determinants Driving Non-Muslim Consumers' Halal Product Choices in Palu, Indonesia. *Al-Intaj: Jurnal Ekonomi Dan Perbankan Syariah*, 11(2), 450–471. <http://dx.doi.org/10.29300/aij.v11i2.7601>
- Wahab, A., Budi, I. S., & Amanda, A. P. F. (2024). Analysis of Halal Literacy, Halal Awareness, Motivation and Religiosity of SMES on Interest in Halal Certification in Banjarmasin. *Journal of Islamic Economic Laws*, 7(2), 1–27. <https://doi.org/10.23917/jisel.v7i02.5071>
- Yin K. Robert, & Campbell T. Donald. (2018). *Case Study Research and Design and Methods*. Vol. 5. Sage Publications.
- Zhang, B.-Z., Moon, J.-W., & Park, J.-M. (2026). Comparative Review of Halal Certification Frameworks for Poultry Meat in Malaysia, Singapore, and Indonesia. *Foods*, 15(4), 659. <https://doi.org/10.3390/foods15040659>