

INDONESIA-PHILIPPINES LECTURER COLLABORATION IN TECHNOLOGY-BASED EMPOWERMENT OF MSMEs AND HONEY BEEKEEPERS: AN INTERNATIONAL COMMUNITY SERVICE AT THE 1ST AFEBSI CONGRESS

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Abstract

The healthy lifestyle trend has created market opportunities for natural-product MSMEs, including honey beekeepers, yet natural resources do not automatically become competitive advantage due to limited digital literacy, packaging, marketing, and branding capacity. This international community service program aimed to empower MSMEs and honey beekeepers through digital marketing, artificial intelligence, and e-commerce to enhance competitiveness and expand market reach. The program was conducted as part of the 1st AFEBSI Congress by DPN AFEBSI with Philippine Women's University in Jakarta on October 14, 2026, involving approximately 126 lecturers from universities across Indonesia who served as the implementation team representing their respective campuses. The community service team came from Dinamika Bangsa University, Philippine Women's University, Swiss German University, Faletahan University, Muhammadiyah University of Jambi, Pignatelli Triputra University, and Mercu Buana University. The program was carried out through focus group discussions (FGDs) in several groups that brought together speakers from the Philippines and lecturers from Indonesia, using the Resource-Based View (RBV) and Pentahelix collaboration as the analytical framework. The FGD results show that honey is a valuable resource that becomes a competitive advantage only when managed through quality management, packaging, branding, and digital marketing, and supported by collaboration among academia, business, community, government, and media. The program also strengthened cross-country and cross-university academic networks. Empowering MSMEs and honey beekeepers requires continuous lecturer-led mentoring, consistent product quality, and producer integrity to maintain consumer trust.

Keywords: MSME empowerment; honey beekeepers; digital marketing; artificial intelligence; focus group discussion; Pentahelix; AFEBSI Congress

1. INTRODUCTION

The healthy lifestyle trend has increased demand for nature-based products, and this shift has created new market niches for Micro, Small, and Medium Enterprises (MSMEs). Honey is a prominent example. It is no longer viewed merely as a sweetener or traditional

remedy, but as a complete business ecosystem covering cultivation, processing, packaging, marketing, and brand building. MSMEs play an important role in the Indonesian economy, both through their contribution to gross domestic product (GDP) and through employment (Tambunan, 2019). Recent government data indicate that MSMEs contribute more than 60 percent of GDP and absorb more than 96 percent of the national workforce (InfoBank News, 2026). Strengthening the competitiveness of natural-product MSMEs, including honey beekeepers, therefore has strategic value.

Nevertheless, natural resource wealth does not automatically become competitive advantage. MSME actors and honey beekeepers still face limited digital literacy, quality and packaging standards, marketing strategies, and brand management (Tambunan, 2019). Studies on MSMEs in Jambi City likewise examine factors such as social influence and data privacy in the adoption of digital financial technology (Hassandi et al., 2026). Data from the Ministry of Cooperatives and SMEs, as reported in the media, indicate that 83.9 percent of MSMEs have difficulty marketing their products (KabarBursa, 2026). Advances in digital marketing, artificial intelligence (AI), and e-commerce open opportunities to expand market reach, for example through content creation, market analysis, and online store management (Davenport et al., 2020; Kotler et al., 2021). Technology, however, serves only as a lever. The foundation remains consistent product quality and producer integrity, because consumer trust is a relational asset that determines the sustainability of trading relationships (Morgan & Hunt, 1994).

This problem can be read through the Resource-Based View (RBV). RBV holds that competitive advantage originates from a firm's internal resources (Wernerfelt, 1984), namely resources that are valuable, rare, inimitable, and non-substitutable (Barney, 1991). In later development, the organization's ability to manage these resources was added as a requirement (organized) (Barney, 1995). Honey is a valuable resource, but without organization, quality management, and an appropriate marketing strategy, this potential will not become competitive advantage.

MSME actors also cannot work alone. Pentahelix collaboration is needed, that is, synergy among academics, business, community, government, and media. The model evolved from the Triple Helix concept linking universities, industry, and government (Etzkowitz & Leydesdorff, 2000), then the Quadruple Helix, which added civil society and media (Carayannis & Campbell, 2009), and finally a five-element model widely used in innovation and enterprise development (Halibas et al., 2017).

Universities hold the academic element in this collaboration. As part of the 1st AFEBSI Congress, DPN AFEBSI together with Philippine Women's University organized an international community service program themed on the digital transformation of MSMEs through strengthened digital marketing, artificial intelligence, and e-commerce. The program involved approximately 126 lecturers from universities across Indonesia as an implementation team representing their respective campuses. It was complemented by a field visit to Taman Wisata Lebah Madu Pramuka (Madu Pramuka Honey Bee Tourism Park) in Cibubur. The site grew out of the Pusat Apiari Pramuka, established in 1971, and became PT Madu Pramuka in 2005 (Sah.co.id, n.d.); today it functions as an education, beekeeping training, and honey production center under the Madu Pramuka brand (Good News from Indonesia, 2025). It has also hosted study visits by beekeeper groups from other regions (Warta Ekonomi, 2021) and has been the subject of a digital marketing strategy study (Chairunisa, 2026). Taman Wisata Lebah Madu Pramuka is therefore positioned as a learning site and benchmark (good practice) for lecturers who will mentor MSMEs and honey beekeepers in their own regions. Members of the team have previously carried out community service on family empowerment through digital financial management in UP2K Sere Serumpun Jambi (Yossinomita et al., 2026), and the present program extends this line of lecturer-led digital empowerment to honey MSMEs.

Based on the above, this community service program aims to empower MSMEs and honey beekeepers through digital marketing, artificial intelligence, and e-commerce in order to enhance competitiveness and expand market reach. Through cross-country FGDs grounded in RBV and Pentahelix collaboration, the program is expected to produce shared understanding and mentoring recommendations that lecturers can follow up in their own regions.

2. IMPLEMENTATION METHOD

2.1. Approach, time, and location

The program used a participatory approach combining field learning and focus group discussions (FGDs). It was held on October 14, 2026 in Jakarta, with a field visit to Taman Wisata Lebah Madu Pramuka, Cibubur [adjust the day and sequence of activities].

2.2. Participants and implementation team

There were approximately 126 lecturers from [number] universities in [number] provinces across Indonesia, who attended as representatives of their respective campuses and at the same time served as the implementation team. Three speakers from the Philippines and Indonesia delivered material and facilitated discussions. This manuscript was written by eight authors from Dinamika Bangsa University, Philippine Women's University, Swiss German University, and Faletahan University, based on the activities carried out by all participating lecturers.

2.3. Stages of activity

The stages of the program are presented in Table 1.

Table 1. Stages of the community service program

Stage	Activity	Output
1. Preparation	Coordination among DPN AFEBSI, Philippine Women's University, and the community service team; preparing the theme, material, and FGD guide; coordinating with the visit site	Activity design and FGD guide
2. Presentation of material	Three speakers presented material on MSME digital transformation, digital marketing, artificial intelligence, and e-commerce	Shared conceptual framework
3. Field visit	Observing the honey business ecosystem at Taman Wisata Lebah Madu Pramuka: cultivation, processing, packaging, marketing, and branding	Field observation notes
4. FGD	Participants were divided into several groups combining speakers from the Philippines and lecturers from Indonesia to discuss potential, obstacles, and strategies for empowering honey MSMEs	Notes and summaries of each group's discussion
5. Presentation and closing	Each group presented its FGD results; speakers gave feedback and reinforcement	Joint recommendations

2.4. Data collection and analysis

Data were collected through field observation, FGD notes, group presentations, and activity documentation [add if available: participant questionnaire or feedback]. FGDs were chosen because they allow participants to exchange views in a guided manner and produce collective understanding (Kitzinger, 1995; Krueger & Casey, 2015). Data were analyzed descriptively and qualitatively by grouping findings into themes (Braun & Clarke, 2006), with RBV as the framework for assessing honey as a resource and Pentahelix as the framework for mapping stakeholder roles.

3. RESULTS AND DISCUSSION

3.1. Implementation of the program

The program was attended by approximately 126 lecturers representing their respective campuses across Indonesia. Dividing participants into several groups combining speakers from the Philippines and lecturers from Indonesia created a space for cross-country and cross-university discussion. Each group examined the potential and challenges of honey enterprises from different disciplinary perspectives and experiences (Figure 1 and Figure 2).



Source: Authors' documentation (2026)

Figure 1. Participants and speakers at the opening of the international community service program during the 1st AFEBSI Congress, Jakarta, October 14, 2026



Source: Authors' documentation (2026)

Figure 2. Material presentation by speakers from the Philippines and Indonesia

3.2. Field learning at Taman Wisata Lebah Madu Pramuka

The field visit showed that a honey business is a complete ecosystem, not merely the sale of a commodity. Taman Wisata Lebah Madu Pramuka combines the cultivation of two bee types, *Apis mellifera* and *Trigona*, branded honey production, beekeeping training, and educational tourism (Good News from Indonesia, 2025). The site has also been the subject of a study on social media-based digital marketing to increase visits (Chairunisa, 2026), which shows that digital marketing is already part of how such enterprises reach their market. For participants, the visit served as an open laboratory for reading the relationship among natural wealth, managerial sharpness, and sensitivity to economic opportunity (Figure 3 and Figure 4).



Source: Authors' documentation (2026)

Figure 3. Participants' field visit at Taman Wisata Lebah Madu Pramuka, Cibubur



Source: Authors' documentation (2026)

Figure 4. Observation of bee colonies and honey cultivation with the field guide

3.3. FGD results through the Resource-Based View

The FGDs found that discovering natural potential is only half the journey, while the steeper second half is turning that potential into a competitive product sought by the market (Figure 5 and Figure 6). These findings are mapped to the RBV criteria in Table 2.



Source: Authors' documentation (2026)

Figure 5. Focus group discussion (FGD) between speakers from the Philippines and lecturers from Indonesia



Source: Authors' documentation (2026)

Figure 6. Presentation of FGD results by group representatives

Table 2. Mapping of FGD findings based on Resource-Based View criteria

RBV criterion	FGD findings on honey enterprises	Implications for mentoring
Valuable	Honey and its derivative products are in demand as the healthy lifestyle trend grows	Strengthen benefit narratives and product positioning
Rare	Product diversity, such as honey from <i>Apis mellifera</i> and <i>Trigona</i> bees, and locally specific nectar sources are potential sources of uniqueness	Identify and document product uniqueness
Inimitable	Brand, quality reputation, and consumer trust are hard for competitors to imitate	Build the brand and quality transparency
Organized	Without quality management, packaging, and a marketing strategy, potential does not become advantage	Training in quality management, packaging, bookkeeping, and digital marketing

These findings are consistent with the RBV argument that valuable resources are not sufficient without the ability to organize them (Barney, 1991, 1995). For honey, organization covers quality management, packaging, brand strengthening, and digital marketing.

3.4. Stakeholder roles in Pentahelix collaboration

The FGDs also mapped the roles of the five Pentahelix elements in empowering honey MSMEs, as presented in Table 3.

Table 3. Roles of Pentahelix elements in empowering honey MSMEs

Element	Identified role
Academics	Designing bookkeeping and digital marketing strategies and mentoring; knowledge transfer
Business	Beekeepers and MSMEs as producers; industry partners for market access and packaging
Community	Strengthening networks and sharing good practices
Government	Opening access to policy, licensing, and financing
Media	Publicity and brand image building

This mapping confirms that beekeepers cannot go it alone. MSMEs' weaknesses in organizing resources can be filled by the other elements of the collaboration. In this program, lecturers acted as the academic element bridging knowledge and networks. It should be noted that five-element collaboration is easier to formulate than to implement, particularly in coordinating roles and sustaining partnerships over time.

3.5. Technology as a lever, not a foundation

The discussion of digital marketing, artificial intelligence, and e-commerce concluded that technology is a lever. AI can support content creation, market analysis, and customer service, while digital marketing and e-commerce widen market reach (Davenport et al., 2020; Kotler et al., 2021). However, social media algorithms cannot replace consistent quality and producer integrity. High-quality honey will not command a high value unless it is branded, well packaged, and accompanied by a transparent quality narrative. This finding is consistent with relationship marketing theory, which treats trust as a determinant of consumer commitment (Morgan & Hunt, 1994).

3.6. Knowledge exchange through informal interaction

Beyond formal material, informal interaction during the visit, including participants' jokes, relaxed the atmosphere and encouraged open questions. In knowledge creation theory, such interaction supports the exchange of tacit knowledge, which is difficult to put in writing (Polanyi, 1966; Nonaka, 1994; Nonaka & Takeuchi, 1995). This suggests that community service is not merely an administrative obligation but a space for encounters where ideas are exchanged without rigid bureaucratic barriers.

3.7. Limitations and sustainability

The program has limitations. First, it was brief, so its effect on business performance cannot yet be measured. Second, the FGD results are qualitative and have not been tested through quantitative measurement of improvements in knowledge or skills. Third, the visit site is an established enterprise that also serves as a training center, so the challenges of small-scale MSMEs in the regions require further study. Sustainability depends on follow-up by lecturers at their campuses and in their regions. The authors propose MSME honey mentoring programs, digital marketing training, and further research as follow-up actions.

4. CONCLUSION AND RECOMMENDATIONS

The international community service program at the 1st AFEBSI Congress shows that honey, as a valuable resource, becomes a competitive advantage only when managed through quality management, packaging, brand strengthening, and digital marketing, and supported by collaboration among academics, business, community, government, and media. Technology, including artificial intelligence and e-commerce, functions as a lever, while the foundation remains consistent product quality and producer integrity. The cross-country and cross-university FGDs also strengthened academic networks within the AFEBSI community.

Suggestions for future implementation: Develop a mentoring program for honey-producing MSMEs led by lecturers in their respective regions, with measurable performance indicators to assess the outcomes.

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REFERENCES

- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120. <https://doi.org/10.1177/014920639101700108>
- Barney, J. (1995). Looking inside for competitive advantage. *Academy of Management Executive*, 9(4), 49–61. <https://doi.org/10.5465/ame.1995.9512032192>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Carayannis, E. G., & Campbell, D. F. J. (2009). "Mode 3" and "Quadruple Helix": Toward a 21st century fractal innovation ecosystem. *International Journal of Technology Management*, 46(3–4), 201–234. <https://doi.org/10.1504/IJTM.2009.023374>
- Chairunisa, A. (2026). *Strategi digital marketing berbasis media sosial untuk meningkatkan kunjungan Taman Wisata Lebah Cibubur* [Social media-based digital marketing strategy to increase visits to Cibubur Bee Tourism Park] [Undergraduate final project, IPB University]. IPB Repository. <https://repository.ipb.ac.id/handle/123456789/177220>
- Davenport, T., Guha, A., Grewal, D., & Bressgott, T. (2020). How artificial intelligence will change the future of marketing. *Journal of the Academy of Marketing Science*, 48(1), 24–42. <https://doi.org/10.1007/s11747-019-00696-0>
- Etzkowitz, H., & Leydesdorff, L. (2000). The dynamics of innovation: From National Systems and "Mode 2" to a Triple Helix of university–industry–government relations. *Research Policy*, 29(2), 109–123. [https://doi.org/10.1016/S0048-7333\(99\)00055-4](https://doi.org/10.1016/S0048-7333(99)00055-4)
- Good News from Indonesia. (2025, January 13). *Mengenal lebih jauh tentang lebah dan madunya di Taman Wisata Lebah Cibubur* [Getting to know bees and their honey at Cibubur Bee Tourism Park]. <https://www.goodnewsfromindonesia.id/2025/01/13/mengenal-lebih-jauh-tentang-lebah-dan-madunya-di-taman-wisata-lebah-cibubur>

- Halibas, A. S., Sibayan, R. O., & Maata, R. L. R. (2017). The Penta Helix model of innovation in Oman: An HEI perspective. *Interdisciplinary Journal of Information, Knowledge, and Management*, 12, 159–174. <https://doi.org/10.28945/3735>
- Hassandi, I., Yossinomita, Y., Feranika, A., Candraningtyas, W., & Pasae, A. (2026). Analysis of digital financial services technology adoption for MSMEs in Jambi City. *Jurnal Manajemen Teknologi dan Sistem Informasi (JMS)*, 6(2), 1356-1365. <https://doi.org/10.33998/jms.2026.6.2.2749>
- InfoBank News. (2026). *Wakil Ketua Komisi XI DPR ungkap tantangan UMKM sebagai backbone ekonomi RI* [Deputy Chair of House Commission XI reveals challenges of MSMEs as the backbone of Indonesia's economy]. <https://infobanknews.com/wakil-ketua-komisi-xi-dpr-ungkap-tantangan-umkm-sebagai-backbone-ekonomi-ri>
- KabarBursa. (2026, August 25). *Majukan UMKM, Kementerian UMKM tidak bisa kerja sendiri* [To advance MSMEs, the Ministry of MSMEs cannot work alone]. <https://www.kabarbursa.com/makro/majukan-umkm-kementerian-umkm-tidak-bisa-kerja-sendiri>
- Kitzinger, J. (1995). Qualitative research: Introducing focus groups. *BMJ*, 311(7000), 299–302. <https://doi.org/10.1136/bmj.311.7000.299>
- Kotler, P., Kartajaya, H., & Setiawan, I. (2021). *Marketing 5.0: Technology for humanity*. John Wiley & Sons.
- Krueger, R. A., & Casey, M. A. (2015). *Focus groups: A practical guide for applied research* (5th ed.). SAGE Publications.
- Morgan, R. M., & Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing*, 58(3), 20–38. <https://doi.org/10.1177/002224299405800302>
- Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization Science*, 5(1), 14–37. <https://doi.org/10.1287/orsc.5.1.14>
- Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company: How Japanese companies create the dynamics of innovation*. Oxford University Press.
- Polanyi, M. (1966). *The tacit dimension*. Doubleday.
- Sah.co.id. (n.d.). *Gerakan Pramuka miliki 6 perusahaan skala nasional, mulai EO, peternakan, taman rekreasi, sampai peternakan* [The Scout Movement owns six national-scale companies, from event organizing and livestock to recreation parks]. <https://news.sah.co.id/gerakan-pramuka-miliki-6-perusahaan-skala-nasional-mulai-eo-peternakan-taman-rekreasi-sampai-peternakan/>
- Tambunan, T. T. H. (2019). Recent evidence of the development of micro, small and medium enterprises in Indonesia. *Journal of Global Entrepreneurship Research*, 9, Article 18. <https://doi.org/10.1186/s40497-018-0140-4>
- Warta Ekonomi. (2021, December 24). *Askrindo nyata bagi negeri, keinginan Casman studi banding ke Cibubur terwujud* [Askrindo real for the nation, Casman's wish for a study visit to Cibubur fulfilled]. <https://wartaekonomi.co.id/read382584/askrindo-nyata-bagi-negeri-keinginan-casman-studi-banding-ke-cibubur-terwujud>
- Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, 5(2), 171–180. <https://doi.org/10.1002/smj.4250050207>

Yossinomita, Y., Mardiana, R., Hassandi, I., Andiliana, V. S., & Irmawan, B. (2026). Family empowerment through digital financial management UP2K Sere Serumpun Jambi. *Jurnal Medika: Medika*, 5(2), 1755-1763. <https://doi.org/10.31004/xng3vs30>