



Mapping University Research and Community Service Partnerships: Implications for Sustainable Development and Performance

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Abstract

University partnerships are an important mechanism for extending the relevance and impact of research and community service. They can connect academic knowledge with industry, government, communities, and other stakeholders, thereby creating opportunities to support sustainable development. This study aims to map research and community service partnerships in 2025 based on partner characteristics, geographical coverage, formalization through Memoranda of Agreement (MoA), and their associated Sustainable Development Goals (SDGs). A descriptive quantitative approach was applied to secondary administrative data managed by the Institute for Research and Community Service (LPPM) of Universitas Pembangunan Nasional Veteran Yogyakarta. Partnership activities were classified by activity type, industrial or non-industrial/general partner, and domestic or international partner. Frequencies and percentages were used to identify partnership patterns. The 2025 dataset contained 93 activities, comprising 57 research activities and 36 community service activities. Domestic partners accounted for 92.47% of activities, while non-industrial/general partners accounted for 73.12%. A formal MoA was recorded for 39 activities (41.94%). SDG 9, SDG 8, and SDG 2 were the most frequently associated goals. The study contributes an institutional mapping framework that combines activity type, partner characteristics, geographical coverage, formal partnership status, and SDG orientation. The results provide a baseline for partner diversification, internationalization, and more impact-oriented partnership management, although SDG and university performance achievements were not directly measured.

Keywords *Partnership, Research, Community service, SDGs, University performance*

INTRODUCTION

Higher education institutions (HEIs) are increasingly expected to contribute not only to knowledge creation and human capital development but also to innovation, economic development, and the resolution of societal and environmental challenges. These roles require sustained relationships with industry, government, communities, non-governmental organizations, and other educational institutions. Recent reviews show that higher education contributes to sustainable development through research, education, third-mission activities, management, and engagement with external stakeholders (Fia et al., 2022; Serafini et al., 2022). The 2030 Agenda therefore places universities within a broader partnership ecosystem that mobilizes knowledge, resources, and networks across institutional boundaries (United Nations, 2023).

University-industry collaboration is particularly relevant to knowledge transfer, innovation, research utilization, and commercialization. Recent systematic reviews show that

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collaboration outcomes depend not only on the presence of partnerships but also on the quality of relationships, organizational support, trust, communication, and the ability to manage barriers throughout research and innovation processes (Pujotomo et al., 2023; Rossoni et al., 2023). Research on university-industry partnerships also indicates that effective collaboration can support technology development and application, yet its impacts are multidimensional and difficult to capture with a single performance measure (Cohen et al., 2024; Evans et al., 2023).

The partnership ecosystem of universities, however, extends beyond industry. University-community partnerships can support knowledge generation, capacity building, empowerment, and the implementation of solutions to local sustainability challenges. Leal Filho et al. (2023) demonstrate that mapping university-community partnerships can reveal how collaborative initiatives contribute to multiple SDGs. Similarly, recent work on higher education-industry collaboration emphasizes the importance of clear objectives, communication, commitment, continuity, and mutual benefits for sustaining collaboration (Shah & Gillen, 2024). Thus, partnership analysis needs to consider both economic and innovation-oriented relationships and socially oriented relationships with communities and public institutions.

The growing emphasis on partnerships is closely linked to the SDGs. Systematic reviews indicate that integrating the SDGs into HEIs remains multidimensional and often fragmented across research, teaching, outreach, and institutional management (Fia et al., 2022; Serafini et al., 2022). More recent studies underscore the need to align SDG activities with institutional strategy, communication, governance, and external collaboration, rather than treating SDG initiatives as isolated programs (Cembranel et al., 2024; Sawani et al., 2025). Partnership data can therefore serve as an institutional evidence base for identifying where collaboration is concentrated, where gaps exist, and where diversification or internationalization may strengthen contributions to sustainable development.

Despite this growing literature, three gaps remain relevant to institutional partnership management. First, many studies focus on university-industry collaboration, while the broader ecosystem of community, government, educational, and non-industrial partners receives less systematic mapping. Second, SDG studies often examine strategies and initiatives at the institutional level, but fewer studies link SDG-oriented activities to the characteristics and geographic distribution of external partners. Third, partnership databases are often used primarily for administrative reporting rather than as strategic evidence for partner diversification, formalization, internationalization, and impact management. These gaps are important because partnership quantity does not necessarily indicate partnership quality or impact (Cohen et al., 2024).

Against this background, this study maps research and community service partnerships at Universitas Pembangunan Nasional Veteran Yogyakarta (UPN "Veteran" Yogyakarta) using 2025 administrative data. The study distinguishes research from community service, industrial from non-industrial/general partners, domestic from international partners, and formal from non-formal partnerships based on MoA status. It also describes the distribution of activities across SDGs. The novelty lies in integrating these dimensions into a single institutional mapping framework that can serve as a baseline for partnership diversification, internationalization, and evidence-based partnership policy. The study does not estimate causal effects or directly measure SDG or university performance indicators; instead, it identifies partnership patterns and their strategic implications.

LITERATURE REVIEW

University partnerships have increasingly become an important mechanism for higher education institutions (HEIs) to extend their contribution beyond teaching and research toward innovation, community engagement, and sustainable development. Through collaboration with

industry, government, communities, and other institutions, universities can mobilize knowledge and resources to address economic and societal challenges. Previous studies emphasize that the contribution of HEIs to sustainable development involves multiple functions, including research, education, outreach, institutional management, and external collaboration (Fia et al., 2022; Serafini et al., 2022).

University–industry collaboration is particularly relevant to knowledge transfer, technology development, innovation, and commercialization. However, collaboration outcomes depend on relationship quality, organizational support, communication, trust, and the ability to overcome institutional barriers (Pujotomo et al., 2023; Rossoni et al., 2023). At the same time, university–community partnerships contribute to knowledge exchange, capacity building, empowerment, and local development, including contributions to multiple SDGs (Leal Filho et al., 2023). Thus, university partnership portfolios should consider not only industry engagement but also relationships with government, communities, educational institutions, and other stakeholders. The SDGs provide an additional framework for understanding the broader contribution of university partnerships. Research indicates that SDG implementation in HEIs remains multidimensional and requires integration across research, education, outreach, governance, and external collaboration (Fia et al., 2022; Serafini et al., 2022). Cembranel et al. (2024) and Sawani et al. (2025) further emphasize the importance of institutional integration, collaboration, and systematic reporting of SDG-related activities. However, association with an SDG should be distinguished from actual SDG achievement, as activity-based mapping does not directly measure outcomes.

Despite growing research on university partnerships and SDGs, limited studies integrate partner characteristics, geographical coverage, formalization, activity type, and SDG orientation within a single institutional mapping framework. Partnership data are also often used primarily for administrative reporting rather than as strategic evidence for partner diversification, internationalization, and impact management. Therefore, this study addresses this gap by mapping research and community service partnerships based on these dimensions and providing an institutional baseline for evidence-based partnership management.

RESEARCH METHOD

This study used a descriptive quantitative approach to map the distribution of research and community service partnerships in 2025. The unit of analysis was an individual research or community service activity recorded by LPPM of UPN "Veteran" Yogyakarta that involved at least one external partner. The secondary dataset comprised administrative records of activities documented in 2025 (LPPM UPN "Veteran" Yogyakarta, 2025).

Partner classification was based on partner identity and the activity category recorded in the LPPM administrative data. Partners whose organizational identity or documented activity was clearly associated with business or industry were coded as industrial. All other partner organizations, including community groups, government institutions, educational institutions, social organizations, and other general partners, were coded as non-industrial/general. This operational classification was applied consistently across the dataset to enable comparison of research and community service activities using the same coding logic.

1. activity type, namely research and community service;
2. partner category, namely industrial and non-industrial/general partners, based on the recorded partner identity/activity category;
3. geographical coverage of partners, namely domestic and international partners;
4. formal partnership status, namely MoA available or not available; and
5. SDG association and number of activities in each partnership category.

The analysis used descriptive statistics, including frequencies and percentages. Percentages were calculated as $P = (n/N) \times 100\%$, where n is the number of activities in a category and N is the total number of activities. SDG mapping used the SDG association recorded in the LPPM activity data and the documented substantive focus of each activity. An activity could be associated with more than one SDG; therefore, the sum of SDG frequencies may exceed the total number of activities. This approach is descriptive and does not claim that the activities directly achieved the corresponding SDG indicators.

$$P = (n/N) \times 100\%$$

Description: P = percentage of the partnership category; n = number of activities in the category; N = total number of relevant activities.

FINDINGS AND DISCUSSION

According to LPPM data from UPN "Veteran" Yogyakarta, the 2025 dataset included 93 partnership-based activities, comprising 57 research activities and 36 community service activities. Table 1 presents the distribution by scheme and the presence of a formal MoA. The MoA variable serves as a proxy for partnership formalization, not as a measure of partnership quality.

Of the 93 activities, 39 (41.94%) had a formal MoA. The proportion was highest in community service-government (75.00%), followed by domestic collaborative research (66.67%) and community service-industry (60.00%). Applied research accounted for 46.43% with an MoA. These differences suggest that formalization varies across activity schemes and may reflect different partnership requirements and working arrangements rather than a single institutional pattern.

Table 1. Distribution of Partner-Based on Research and Community Service in 2025

Scheme	number	MoA Available	MoA Not Available	% MoA Available
Applied Research	28	13	15	46.43%
Development Research	15	5	10	33.33%
Domestic Collaborative Research	3	2	1	66.67%
International Collaborative Research	6	3	3	50.00%
Institutional Research	5	0	5	0.00%
Community Service-General	17	4	13	23.53%
Community Service-Industry	15	9	6	60.00%
Community Service-Government	4	3	1	75.00%
Total	93	39	54	41.94%

Research activities outnumbered community service activities (57 versus 36). This pattern indicates that the institutional partnership portfolio in 2025 was more heavily weighted toward research, while community service remained an important second channel for external engagement. The finding aligns with the literature showing that university partnerships can serve a range of functions, from knowledge and technology development to outreach and community engagement (Fia et al., 2022; Leal Filho et al., 2023). Importantly, the present study provides an institutional-level baseline by showing how these functions are distributed across partner types and geographical coverage within one university.

Distribution of Partnerships Based on Partner Characteristics

Partner characteristics are an important dimension for understanding the composition and diversification of university partnerships. In this study, partners were categorized as industrial or

non-industrial/general using the coding procedure described in the Methodology. The results in Table 2 show that 25 of 93 activities (26.88%) involved industrial partners, while 68 activities (73.12%) involved non-industrial/general partners.

Table 2. Recapitulation of Research and Community Service Partners

Activity Type	Industrial Partners	Non-Industrial/General Partners	Total
Research	10	47	57
Community Service	15	21	36
Total	25	68	93

The mapping shows a clear concentration of partnerships among non-industrial/general partners, particularly in research, where 47 of 57 activities (82.46%) involved this category. Industrial partners were more prominent in community service than in research (41.67% versus 17.54%). This suggests that the institution already has substantial stakeholder engagement, but the distribution is not balanced across partner categories. This pattern aligns with recent evidence that university-industry collaboration can support technology development, commercialization, and innovation but requires deliberate efforts to overcome organizational and relational barriers (Pujotomo et al., 2023; Rossoni et al., 2023). For UPN "Veteran" Yogyakarta, the relatively low industrial share in research points to an opportunity to strengthen industry-linked research, particularly where research outputs have clear potential for adoption, commercialization, or technology transfer.

At the same time, the dominance of non-industrial/general partners should not be viewed as a weakness. Community, government, educational, and social partners are essential to the social relevance of higher education and to addressing local development challenges. Leal Filho et al. (2023) likewise show that university-community partnerships can contribute to multiple SDGs through knowledge exchange, capacity building, and joint initiatives. The strategic issue is therefore not to replace non-industrial partnerships but to diversify the portfolio while strengthening pathways from research to users and industry.

Distribution of Partners Based on Geographical Coverage

The geographical distribution of partners was classified as domestic or international. As shown in Table 2, 86 of 93 activities (92.47%) involved domestic partners, while 7 activities (7.53%) involved international partners. International collaboration occurred only in research activities, with 7 of 57 research activities involving international partners; no community service activity in the dataset was international.

Table 3. Recapitulation of Research and Community Service Partners Based on Geographical Coverage

Activity Type	Domestic Partners (n)	International Partners (n)	Total (%)
Research	50	7	57
Community Service	36	0	36
Total	86	7	93
Percentage	92,4 %	7,53 %	100

The strong domestic orientation indicates that LPPM had a substantial national partnership base in 2025. This is valuable for addressing local and national development needs, but the

relatively small international share also indicates room for further internationalization. Recent higher education literature emphasizes that SDG-oriented university activity benefits from external collaboration, communication, and institutional integration (Cembranel et al., 2024; Sawani et al., 2025). International partnerships can therefore be treated not simply as a numerical target but as a mechanism for expanding knowledge exchange, joint research, and access to wider networks. The current finding also helps identify a concrete institutional gap: international collaboration should be expanded, particularly in community service and applied research, where cross-country learning could add value.

Based on this pattern, internationalization may be strengthened through institutional networks, joint research initiatives, visiting scholars, alumni networks, and collaborative community programs with foreign partners. Such development should prioritize continuity and shared objectives over one-off activities, consistent with the literature on effective higher education-industry collaboration (Shah & Gillen, 2024).

Mapping of Research and Community Service Partnership Patterns

The combination of activity type and partner characteristics provides a concise partnership profile (Table 4). Research was predominantly associated with non-industrial/general partners (82.46%), whereas community service showed a more balanced distribution, though non-industrial/general partners still dominated (58.33%). This pattern illustrates the value of combining variables rather than interpreting partnership counts in isolation. It also makes visible the institutional segments that may be targeted for diversification, formalization, or internationalization.

Table 4. Mapping of Partnerships Based on Activity Type and Partner Characteristics

Activity Type	Partner Characteristics	Number	Percentage within Activity Type (%)
Research	Industrial	10	17.54
	Non-industrial/General	47	82.46
	Subtotal	57	100.00
Community Service	Industrial	15	41.67
	Non-industrial/General	21	58.33
	Subtotal	36	100.00
Total	Industrial	25	26.88
	Non-industrial/General	68	73.12
Total		93	100.00

Table 4 highlights two strategic features. First, research partnerships have substantial room to deepen industry involvement, particularly for applied research and research outputs that require external adoption or commercialization. Second, community service already has a larger industry component but remains largely domestic. These patterns align with the literature showing that collaboration can generate innovation and societal value when universities and external partners align needs, capabilities, and expected outcomes (Cohen et al., 2024; Pujotomo et al., 2023). The novelty of the present analysis is therefore not a causal claim about performance, but rather the integration of partnership characteristics into a single descriptive institutional baseline that can guide subsequent partnership policy.

Implications of Partnerships for the SDGs

Although this study does not directly measure SDG indicator achievement, the SDG distribution in Table 5 offers an overview of the thematic orientation of the partnership portfolio. SDG 9 (Industry, Innovation and Infrastructure) was the most frequently associated goal (50 activities), followed by SDG 8 (Decent Work and Economic Growth; 28 activities) and SDG 2 (Zero Hunger; 24 activities). SDG 12 and SDG 11 were associated with 11 and 9 activities, respectively. Because one activity may contribute to more than one SDG, these frequencies are not mutually exclusive and should not be interpreted as percentages of the 93 activities.

Table 5. Distribution of Activities by Associated SDGs

No	SDGs	Number of activities
1	SDG 9 – Industry, Innovation and Infrastructure	50
2	SDG 8 – Decent Work and Economic Growth	28
3	SDG 2 – Zero Hunger	24
4	SDG 12 – Responsible Consumption and Production	11
5	SDG 11 – Sustainable Cities and Communities	9

The predominance of SDG 9, SDG 8, and SDG 2 is substantively plausible for a university with strong research and community-service activity in innovation, economic development, and agriculture-related issues. The pattern is also consistent with the broader literature showing that HEIs contribute to SDGs through research, outreach, innovation, and external partnerships (Cembranel et al., 2024; Serafini et al., 2022). Leal Filho et al. (2023) further demonstrate that university-community partnerships can support multiple SDGs simultaneously. However, the present dataset identifies thematic associations rather than achieved SDG outcomes. Future reporting should therefore combine activity-level SDG tags with measurable outputs, beneficiaries, and outcomes so that partnership mapping can move from descriptive alignment toward impact assessment.

The SDG results also support the development of an integrated partnership information system. Sawani et al. (2025) identify research activities and collaboration as key elements of SDG disclosure in HEIs, while Fia et al. (2022) emphasize the fragmented nature of SDG implementation across university functions. A structured institutional database that links each activity, partner, geography, MoA status, SDGs, outputs, and outcomes would therefore enhance the usefulness of LPPM data for planning and accountability.

Implications for Higher Education Performance

Partnerships can support higher education performance by strengthening relevance, external engagement, research utilization, community impact, and international networks. However, the present study does not estimate a direct statistical relationship between partnership characteristics and university performance indicators (Kementerian Pendidikan, Kebudayaan, Riset, 2022). Instead, the findings identify institutional conditions that can be managed to enhance partnerships' potential contribution. The 92.47% domestic share suggests a strong national base; the 26.88% industrial share indicates room for stronger business-sector engagement; and the 7.53% international share highlights an internationalization gap.

Based on these patterns, three strategic priorities are proposed. First, partner diversification should broaden stakeholder engagement without diminishing the value of existing community and government relationships. Second, partnership quality should be strengthened by prioritizing clearer agreements, continuity, shared outputs, and measurable impacts rather than

focusing solely on the number of partners. Third, internationalization should be expanded through sustained research and community-service collaborations. These priorities align with recent evidence that HEI sustainability efforts require integration of institutional strategy, external collaboration, and reporting (Cembranel et al., 2024; Sawani et al., 2025).

CONCLUSIONS

This study mapped 93 research and community service partnership activities recorded by LPPM of UPN "Veteran" Yogyakarta in 2025. Research activities (57) outnumbered community service activities (36). Non-industrial/general partners dominated the partnership portfolio (73.12%), and domestic partners accounted for 92.47% of activities. 39 activities (41.94%) had a formal MoA. SDG 9, SDG 8, and SDG 2 were the most frequently associated SDGs. The findings provide a descriptive institutional baseline that reveals a concentration of domestic and non-industrial partnerships and identifies opportunities for broader industry engagement and internationalization.

LIMITATIONS & FURTHER RESEARCH

This study has four main limitations. First, it covers a single institution and a single year (2025), so the findings should not be generalized to other universities or periods without additional evidence. Second, partner classification into industrial and non-industrial/general categories relies on administrative descriptions and therefore involves an interpretive element. Third, SDG association is based on alignment with recorded activities rather than direct measurement of SDG indicators or causal contribution. Fourth, MoA availability indicates formalization but not the quality, duration, or impact of a partnership. These limitations provide a basis for future studies using multi-year, multi-institutional, and outcome-oriented data.

Further research should use multi-year, cross-university comparative data, apply more granular partner classifications, and test whether specific partnership configurations are associated with measurable research utilization, community impact, SDG outcomes, or university performance indicators. Such development would move partnership mapping from administrative description to evidence-based partnership evaluation.

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REFERENCES

- Cembranel, P., Gewehr, L., Dal Moro, L., Fuchs, P. G., Birch, R. S., & Andrade Guerra, J. B. S. O. de A. (2024). The pivotal role of higher education institutions in cultivating a sustainable development goals-centric culture. *International Journal of Sustainability in Higher Education*, 25(7), 1385–1411. <https://doi.org/10.1108/IJSHE-01-2024-0057>
- Cohen, M., Fernandes, G., & Godinho, P. (2024). Measuring the impacts of university-industry R&D collaborations: A systematic literature review. *The Journal of Technology Transfer*, 50(1), 345–374. <https://doi.org/10.1007/S10961-024-10114-5>
- Evans, N., Miklosik, A., & Du, J. T. (2023). University-industry collaboration as a driver of digital transformation: Types, benefits and enablers. *Heliyon*, 9(10), e21017. <https://doi.org/10.1016/j.heliyon.2023.e21017>
- Fia, M., Ghasemzadeh, K., & Paletta, A. (2022). How higher education institutions walk their talk on the 2030 Agenda: A systematic literature review. *Higher Education Policy*, 36(3), 599–632.

<https://doi.org/10.1057/S41307-022-00277-X>

- Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi Republik Indonesia. (2022). *Panduan penyusunan indikator kinerja utama perguruan tinggi*.
- Leal Filho, W., Dibbern, T., Viera Trevisan, L., Coggo Cristofolletti, E., Dinis, M. A. P., Matandirotya, N., Sierra, J., Shulla, K., Buttriss, G., L'Espoir Decosta, P., Mbah, M. F., & Sanni, M. (2023). Mapping universities-communities partnerships in the delivery of the Sustainable Development Goals. *Frontiers in Environmental Science*, 11, 1246875. <https://doi.org/10.3389/fenvs.2023.1246875>
- LPPM UPN "Veteran" Yogyakarta. (2025). *Data kerja sama penelitian dan pengabdian kepada masyarakat tahun 2025*.
- Pujotomo, D., Syed Hassan, S. A. H., Ma'aram, A., & Sutopo, W. (2023). University–industry collaboration in the technology development and technology commercialization stage: A systematic literature review. *Journal of Applied Research in Higher Education*, 15(5), 1276–1306. <https://doi.org/10.1108/JARHE-11-2022-0344>
- Rossoni, A. L., de Vasconcellos, E. P. G., & de Castilho Rossoni, R. L. (2023). Barriers and facilitators of university-industry collaboration for research, development and innovation: A systematic review. *Management Review Quarterly*, 74(3), 1841–1877. <https://doi.org/10.1007/S11301-023-00349-1>
- Sawani, Y., Joseph, C., & Leong, S. H. (2025). Motivating factors of higher education institutions sustainable development goals online disclosure: A systematic literature review. *International Journal of Sustainability in Higher Education*, 26(3), 651–671. <https://doi.org/10.1108/IJSHE-01-2024-0014>
- Serafini, P. G., Moura, J. M. de, Almeida, M. R. de, & Rezende, J. F. D. de. (2022). Sustainable Development Goals in higher education institutions: A systematic literature review. *Journal of Cleaner Production*, 370, 133473. <https://doi.org/10.1016/j.jclepro.2022.133473>
- Shah, R., & Gillen, A. L. (2024). A systematic literature review of university-industry partnerships in engineering education. *European Journal of Engineering Education*, 49(3), 577–603. <https://doi.org/10.1080/03043797.2023.2253741>
- United Nations. (2023). *The Sustainable Development Goals report 2023*. <https://unstats.un.org/sdgs/report/2023/>