


Transforming Vocational School and Industry Partnerships from Administrative to Managerial Practices: A Planning, Organizing, Actuating, and Controlling Multi-Site Study

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*Tjipto Suharsoyo, Amrozi Khamidi, Nunuk Hariyati^{abc} 

¹²³Universitas Negeri Surabaya, Surabaya, Indonesia

Corresponding Author: 25010845028@mhs.unesa.ac.id

A B S T R A C T

Many partnerships between vocational high schools (SMK) and industry (DUDI) remain limited to formal administrative arrangements such as Memorandums of Understanding (MoUs), without effective managerial governance. As a result, these collaborations often have limited impact on graduate employability. This study analyzes how managerial functions—planning, organizing, actuating, and controlling (POAC)—shape the effectiveness and sustainability of school-industry partnerships in Indonesia and proposes an adaptive partnership management model. This research employed a qualitative comparative multi-site design involving two private vocational schools in Mojokerto, Indonesia. Data were collected through in-depth interviews with 27 key informants, supported by alumni data (n=87), participatory observations, and document analysis. Data validity was ensured through source and methodological triangulation. The findings reveal two partnership archetypes: (1) the Gradual Collaborative Model, characterized by value-based planning, formal structures, and institutionalized governance; and (2) the Adaptive Operational Model, which demonstrates strong operational flexibility but limited strategic documentation. Based on these findings, the study proposes an Adaptive-Strategic Partnership Model that integrates POAC managerial functions, collaborative governance principles, and outcome-based evaluation within a dynamic partnership cycle. The novelty of this research lies in reconceptualizing classical management theory in the context of inter-organizational educational partnerships and proposing a tiered DUDI engagement typology as a strategic instrument for strengthening vocational education governance.

Keywords: *Vocational Education Partnership, School-Industry Collaboration, POAC Management Framework, Multi-Site Qualitative Study, Adaptive-Strategic Partnership Model*

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INTRODUCTION

Vocational High Schools (SMK) as vocational education institutions are mandated to prepare graduates who are ready to enter the workforce and possess competencies aligned with industry needs. Consequently, SMKs cannot operate in isolation and must establish strong partnerships with the business and industrial sectors (DUDI). These partnerships are expected to bridge the gap between educational outcomes and labor market demands by aligning curriculum, learning processes, and competency development with industry expectations. In vocational education systems worldwide, collaboration between educational institutions and industry partners is widely recognized as a critical mechanism for ensuring the relevance and effectiveness of vocational training programs. Effective partnerships allow vocational institutions to integrate workplace knowledge into the learning process, expose students to real working environments, and ensure that graduates possess competencies that correspond to current labor market demands (Wheelahan, 2020; OECD, 2023).

Recent national data highlight persistent challenges in vocational graduate employment. According to Indonesia's National Labor Force Survey (Sakernas), graduates of vocational high schools consistently show one of the highest unemployment rates among educational groups. In 2023, the unemployment rate of SMK graduates reached approximately

9–10 percent, higher than that of senior secondary school graduates. This condition raises concerns regarding the effectiveness of vocational education in preparing graduates for the labor market.

In response to this challenge, the Indonesian government has emphasized the importance of strengthening link and match between vocational education institutions and industry through various policies, including the revitalization of vocational education and the implementation of industry-based learning programs such as PKL and Teaching Factory. Within this policy context, collaboration between SMK and the business and industrial sectors (DUDI) becomes a strategic mechanism for improving graduate employability and ensuring the relevance of vocational training.

However, the reality in practice reveals a significant gap between the number of partnerships established and the quality of their implementation. Many collaborations remain limited to administrative formalities, such as the signing of Memorandums of Understanding (MoUs), without systematic managerial coordination and evaluation. As a result, these partnerships often fail to produce meaningful improvements in graduate employability and workforce readiness. In many cases, partnerships function merely as symbolic agreements rather than as dynamic systems of collaboration that support curriculum alignment, workplace learning opportunities, teacher professional development, and graduate recruitment. Without effective management, partnerships tend to rely heavily on informal relationships or personal initiatives rather than structured institutional mechanisms.

From a management perspective, effective partnerships require structured management processes, continuous coordination, and strategic alignment between schools and industry partners. Partnerships should therefore be viewed not only as collaborative programs but also as organizational systems that require strategic planning, clear role distribution, effective implementation, and systematic evaluation. Collaborative partnerships in education often succeed when institutions develop governance structures, shared commitments, and continuous communication mechanisms that enable long-term cooperation (Bryson, Crosby, & Stone, 2015). Without such managerial processes, collaborative initiatives tend to remain fragmented and unsustainable.

Several previous studies have examined school–industry partnerships in vocational education. Many of these studies highlight the importance of collaboration in strengthening vocational education systems, improving curriculum relevance, and enhancing students' work readiness (Clarke, 2022; OECD, 2023). However, most existing studies primarily focus on the implementation of specific partnership programs, such as internships, industry visits, or work-based learning activities. While these studies provide valuable insights into the forms of collaboration between schools and industry, they often pay limited attention to the managerial processes that sustain and govern such collaborations.

Consequently, there remains a significant research gap in understanding how vocational partnerships are managed within school organizations. In particular, few studies have systematically examined how managerial functions—such as planning, organizing, actuating, and controlling—shape the effectiveness and sustainability of school–industry partnerships. As a result, the managerial dynamics that determine whether partnerships evolve into sustainable collaborative systems or remain limited to administrative agreements are still insufficiently explored. Addressing this gap is essential for developing a more comprehensive understanding of partnership governance in vocational education.

Furthermore, only a few studies analyze vocational partnerships using classical management frameworks, such as the Planning–Organizing–Actuating–Controlling (POAC) model. Even fewer studies employ a comparative multi-site design to examine how different institutional contexts shape partnership governance. Consequently, the managerial mechanisms that enable vocational partnerships to evolve from administrative agreements into sustainable collaborative systems remain insufficiently understood.

To address this gap, the present study examines the management of SMK–DUDI partnerships through the Planning, Organizing, Actuating, and Controlling (POAC)

framework within a comparative multi-site context. Unlike many previous studies that primarily focus on the implementation of individual partnership programs, this research emphasizes the managerial processes that shape the sustainability and effectiveness of school-industry collaboration. By comparing partnership practices in two vocational schools with different institutional characteristics, this study identifies distinct patterns of partnership governance and organizational maturity.

More importantly, this research proposes an Adaptive-Strategic Partnership Model that reconceptualizes the classical POAC framework within the context of inter-organizational collaboration. The model integrates managerial processes, collaborative governance principles, and outcome-based evaluation into a dynamic partnership cycle. In addition, this study introduces a tiered DUDI engagement typology that provides a strategic instrument for mapping and strengthening industry participation in vocational education partnerships. The findings are expected to contribute both theoretically to the literature on educational management and practically to the development of more sustainable and outcome-oriented vocational school-industry collaborations.

METHOD

The multi-site design was chosen to enable comparative analysis of partnership governance across different institutional contexts. The two selected schools represent contrasting organizational characteristics. SMK Muhammadiyah 1 Kemlagi operates within a faith-based educational organization emphasizing value-driven institutional culture, while SMK PGRI Mojokerto is managed by a teachers' association foundation with a more operationally pragmatic management style. These contrasting characteristics provide an analytical basis for examining how organizational culture, leadership orientation, and industry networks influence the management of SMK-DUDI partnerships.

By comparing these two cases, the study aims to generate analytical generalization regarding patterns of partnership governance rather than statistical generalization. This research uses a qualitative approach with a descriptive comparative multi-site study design. This approach allows the researcher to describe, compare, and find patterns of similarities and differences in the partnership management process at two research loci in a deep and contextual manner (Fiantika, 2011). The research was conducted in two locations: (1) SMK Muhammadiyah 1 Kemlagi, Mojokerto Regency, and (2) SMK PGRI Kota Mojokerto. The selection of these two schools was based on the consideration that both have established partnerships with DUDI and have different organizational characteristics (Muhammadiyah, a faith-based organization, and PGRI, a teachers' association foundation), thus providing a rich picture for comparative analysis.

Research subjects were determined purposively by considering the informants' involvement in partnership management [16]. Informants included the Principal, Vice Principal for Curriculum, Vice Principal for Public Relations, the Job Placement Center (BKK) Team, the PKL Team, Heads of Expertise Programs, Productive Teachers, representatives from six industry partners, and alumni as beneficiaries of the partnership whose responses were used as supporting triangulation data.

A total of 27 key informants participated in this study. The informants were selected purposively based on their involvement in the management and implementation of SMK-DUDI partnerships. They consisted of school principals, vice principals responsible for curriculum and public relations, members of the Job Placement Center (BKK) team, PKL coordinators, heads of expertise programs, productive teachers, and representatives from six industry partners (DUDI).

In addition to the key informants, supporting data were obtained from alumni as partnership beneficiaries. A total of 87 alumni participated in the supporting data collection, consisting of 33 alumni from SMK Muhammadiyah 1 Kemlagi and 54 alumni from SMK PGRI Kota Mojokerto. The number of informants was determined based on the principle of data saturation, where no substantially new information emerged from additional interviews.

Alumni data were used to triangulate findings related to the outcomes of partnership programs, particularly regarding work readiness and graduate employment experiences.

Data collection techniques used three methods: (1) in-depth interviews with POAC-based guides, (2) participatory observation of partnership activities such as PKL monitoring and coordination meetings, and (3) documentation study of Educational Unit Curriculums, MoUs, PKL reports, and related documents. The research was conducted from late December 2025 to early February 2026. To ensure data validity, source triangulation (comparing data from schools, DUDI, and alumni) and technique triangulation (comparing interview, observation, and documentation data) were performed. Key informants were selected using purposive sampling based on three criteria:

direct involvement in the planning or implementation of SMK-DUDI partnerships,
decision-making authority or operational responsibility within the partnership programs, and
experience interacting with industry partners or supervising PKL activities.

Industry representatives were selected from companies that had actively collaborated with the schools for at least two years and had hosted students for PKL programs. Alumni participants were selected from graduates who had previously participated in PKL programs and had either entered the workforce or continued working with their PKL placement companies.

Data analysis followed the interactive model of Miles, Huberman, and Saldaña (Miles, 2014), which consists of data condensation, data display, and conclusion drawing. In the data condensation stage, interview transcripts, observation notes, and documents were examined through an open coding process to identify meaningful units related to partnership management practices. Similar codes were then grouped into categories corresponding to the POAC functions (planning, organizing, actuating, and controlling). This process enabled the identification of patterns within each site before conducting cross-site comparison. Cross-site analysis was conducted to extract both common and specific patterns from each research location. To maintain narrative coherence between sites, POAC was used as the framework for data interpretation. To enhance the credibility of the findings, the researcher also used member check techniques with informants to ensure alignment between the researcher's interpretation and the informants' empirical experiences, and conducted an audit trail through systematic recording of the data collection and analysis process to maintain dependability and confirmability. The research was conducted by observing ethical principles including informed consent, anonymity, and data confidentiality. This research has also obtained official permission from both institutions where the research was conducted.

FINDINGS AND DISCUSSION

General Overview of the Two Sites

Site 1: SMK Muhammadiyah 1 Kemlagi is a private vocational school under the Muhammadiyah Organization with an A accreditation. It has three expertise programs: Mechanical Engineering, Industrial Electronics Engineering, and Clinical and Community Pharmacy Support Services. It has 281 students, with 30 educators and 10 education staff. Its main partnership with RSI Hasanah is not only administrative but also based on shared institutional values.

Site 2: SMK PGRI Mojokerto is a private vocational school under the PGRI Educational Institution Development Foundation with an A accreditation. It has five expertise programs: Mechanical Engineering, Light Vehicle Engineering, Motorcycle Engineering, Computer and Network Engineering, and Industrial Electronics Engineering. It has 819 students, with 44 educators and 13 education staff. It partners with 55 DUDI, with main partners such as ASW AC Mobil, AHASS Tirta Adi, and PT. Bambang Djaja.

Findings on Partnership Management Based on POAC Functions*Planning*

At Site 1, partnership planning is done substantively and in a structured manner. The school conducts an industry needs analysis through two-way dialogue with RSI Hasanah before the collaboration is implemented. Curriculum synchronization is carried out from the early stages of planning. The MoU is jointly prepared and revised according to the needs of both parties, serving as an operational reference, not just an administrative document. Planning is strengthened by the shared vision and values of the Muhammadiyah organization, which creates a foundation of trust and long-term commitment.

At Site 2, partnership planning is adaptive and responsive but informal. The school has a cooperation proposal that includes the background, objectives, and forms of partnership activities. However, industry needs analysis is not yet structurally documented. Industry needs are mostly known through informal communication and personal relationships with partners. The MoU serves as a legal foundation but has not been utilized as a strategic planning instrument. This flexibility is effective in responding to the dynamic needs of the automotive service industry but is vulnerable to sustainability (Billett, 2021).

Organizing

At Site 1, partnership organizing is carried out through a clear team structure, involving the principal as the person in charge, the vice principals for public relations and curriculum, the PKL team, the BKK team, and the heads of expertise programs. The division of tasks and authority is outlined in a principal's decree. RSI Hasanah noted that the school has a clear and communicative coordination flow, especially in appointing a contact person directly responsible for the implementation of PKL.

At Site 2, partnership organizing uses a formal structure involving the principal, PKL team, BKK, heads of expertise programs, and productive teachers. However, in practice, management is still highly dependent on specific individuals, especially PKL supervising teachers who have direct relationships with the industry. This condition creates a formal-relational organizing model, where the success of cooperation is determined by trust and interpersonal relationships, not merely by formal structure (Bush, 2008).

Actuating

At Site 1, partnership implementation is realized through PKL programs, curriculum synchronization, the involvement of industry practitioners as external examiners for the Competency Test (UKK), and student mentoring at the workplace. RSI Hasanah provides work orientation, routine mentoring, and places students in relevant pharmacy units. However, the implementation of teacher internships has not been optimally realized, indicating a gap between planning and implementation in the aspect of continuous competency development.

At Site 2, partnership implementation is the most dominant management function. PKL programs are carried out intensively, providing students with real work experience in the industry. Student involvement in direct work, mentoring by industry instructors, and opportunities for graduate recruitment are clear evidence of the effectiveness of actuating. Site 2 shows that a focus on the depth and quality of the PKL experience can produce significant outcomes, even though other supporting programs are not yet systematically institutionalized.

Controlling

At Site 1, partnership control is carried out through PKL monitoring by supervising teachers, periodic evaluations with DUDI, and the use of industry input to improve learning. RSI Hasanah noted that the school is responsive to feedback and open to improvement. However, evaluations have not been carried out on a scheduled and systematic basis for all partnership programs. The school has begun using alumni tracer study data, but it is not yet fully integrated as feedback for subsequent planning.

At Site 2, control is carried out through a feedback-based controlling model. Monitoring is done directly by supervising teachers through visits or informal communication with the industry. Feedback from DUDI and alumni data are used as indicators of success.

This model is effective for short-term improvements and quick responses but has the weakness of not being systematically documented, so the organizational learning process does not run optimally (Emerson, 2020).

Data Triangulation

Data triangulation from schools, DUDI, and alumni shows high consistency of findings. At Site 1, DUDI confirmed the existence of an industry needs assessment before collaboration, a clear coordination flow, and structured PKL implementation. Alumni felt a clear connection between learning at school and the world of work, with reinforcement of soft skills such as discipline, responsibility, and work ethic. At Site 2, DUDI confirmed that coordination is done directly and runs smoothly. Alumni reported being directly recruited by their PKL placement and feeling significant benefits from the real work experience. However, alumni also acknowledged differences between school learning facilities and actual conditions in the industry, indicating a need for strengthening infrastructure.

Table 1. Comparison of Partnership Management Practices Between Sites

Function	Site 1: SMK Muhammadiyah 1 Kemlagi	Site 2: SMK PGRI Kota Mojokerto	Findings
Planning	Substantive, based on needs analysis, integrated with institutional values	Adaptive-responsive, direct communication, informal	Planning varies from systematic-formal to adaptive-relational
Organizing	Clear structure, communicative, function-based	Formal structure with personal relationship-based coordination	Effectiveness is determined by a combination of structure and relationships
Actuating	Structured, comprehensive, gaps exist (teacher internships)	Intense focus on PKL, depth of real work experience	Quality of core programs determines more than quantity of programs
Controlling	Periodic evaluation, beginning to use tracer studies	Feedback-based controlling, responsive but not documented	Control is shifting towards outcome-based evaluation

Comparative Analysis of Partnership Patterns and Organizational Maturity

Upon deeper examination, the differences between the two sites do not merely reflect technical variations in the application of POAC functions but also illustrate the level of organizational maturity in managing partnerships. Site 1 demonstrates a tendency towards an institutionalized partnership, where the partnership is becoming embedded in the organizational system through the integration of values, formal structures, and evaluation mechanisms. This is evident from the way shared values with RSI Hasanah accelerate the formation of trust and commitment, moving the collaboration beyond a transactional relationship to a more strategic one.

In contrast, Site 2 represents a relational partnership, which is operationally effective due to the strength of interpersonal relationships but has not yet been fully documented within a stable management system. This condition makes the partnership vulnerable to personnel changes. From the perspective of organizational theory, this situation can be explained through the lens of organizational learning. A sustainable partnership demands the organization's ability to learn from experience, process feedback, and transform it into new policies or procedures (Fullan, 2020). At Site 1, the embryo of organizational learning is beginning to emerge through the use of tracer studies as a basis for program reflection. However, this process has not yet fully formed a double-loop learning cycle capable of altering basic assumptions and long-term strategies. At Site 2, the quick response to industry needs demonstrates a high adaptive capacity, but because it is not systematically documented, the learning tends to be individual, not institutional.

Integration of POAC, Collaborative Governance, and Outcome-Based Management

In the context of inter-organizational partnerships such as SMK–DUDI collaboration, the POAC managerial framework operates within a broader collaborative governance environment, where planning, organizing, actuating, and controlling are jointly enacted by multiple stakeholders.

The research findings indicate that the integration of POAC functions should not be understood merely as a technical procedure but as a mechanism for organizational transformation. Planning based on industry needs analysis must be followed by organizing that supports the collective distribution of responsibility. Without strong organizing, implementation will depend on specific individuals and be vulnerable to personnel changes. Similarly, effective control must go beyond routine monitoring and develop into measurable outcome-based evaluation, including graduate absorption rates, industry satisfaction, and sustainability of cooperation (Prianto, 2021).

The findings at Site 1 regarding value-based planning confirm Lendrum's (Lendrum, 2012) view that the principles of trust and integrity are the foundation of a solid partnership. This aligns with collaborative governance, which emphasizes the importance of trust in inter-organizational collaboration (Ansell, 2008). At Site 2, the effectiveness of PKL implementation resulting in direct recruitment proves that an outcome-based management approach [10] can be achieved even with informal planning, but its long-term sustainability is questionable due to weak documentation and organizational learning (Fullan, 2020).

Furthermore, the success of the partnership is also influenced by the suitability between the characteristics of the DUDI and the school's managerial approach. Industries with a structured corporate culture tend to be more responsive to a well-documented strategic partnership model. Conversely, medium-scale service industries often rely more on flexibility and direct communication. From the perspective of collaborative governance, trust is not only formed through shared values but also through consistent implementation of commitments and openness to joint evaluation. Site 1 demonstrates that shared institutional values accelerate trust-building. Site 2 shows that the intensity of work interactions can build functional trust even without a similar ideological foundation. These findings expand our understanding by showing that sustainable partnerships cannot be maintained merely through written agreements but depend heavily on the agility of both parties in adapting to changing situations in the field. Therefore, the balance between structure and relationships becomes a key element in the integrative model proposed.

This research not only shows variations in partnership practices but also identifies stages in the evolution of vocational education partnerships: from administrative partnership, moving towards relational operational partnership, and developing into strategic collaborative partnership. Positioning the two sites within this continuum provides an overview that partnership transformation is a gradual process influenced by school leadership, organizational culture, and the quality of interaction with DUDI. These findings offer a new perspective on POAC theory by placing it in the context of strategic partnerships. Here, POAC does not operate rigidly but dynamically and adaptively. The control function, for instance, evolves into a joint evaluation mechanism involving industry partners directly to measure tangible outcomes. This shifts the traditional understanding of internal management towards a broader collaborative framework, enriching the educational management literature by proving that the success of vocational education heavily depends on the quality of shared governance and adaptability, not merely on administrative aspects.

Adaptive-Strategic Partnership Model for SMK-DUDI Based on POAC and Outcomes

Based on the synthesis and in-depth analysis, the Adaptive-Strategic Partnership Model for SMK-DUDI Based on POAC and Outcomes was formulated, as seen in Figure 1. This model integrates operational effectiveness with the strengthening of strategic systems. Site 1 represents a partnership moving towards a strategic partnership: planning based on values and needs, DUDI's role as a program co-creator, integration of planning and control, and outcomes in the form of an adaptive workforce with a solid career path. Site 2 represents a partnership that is operationally effective but strategically fragile: excellence in the implementation function, weaknesses in planning and controlling, strategically fragile because they rely heavily on specific individuals, and outcomes in the form of a ready-to-use workforce with fast access to the workforce.



Figure 1. Adaptive-Strategic Partnership Model for SMK-DUDI

Model Description: The model consists of six main interconnected components:

Organizational and Environmental Context: The foundation influencing the entire process, including institutional values, managerial capacity, DUDI partner characteristics, and applicable policies. This component acknowledges that partnership strategies cannot be one-size-fits-all and must be tailored to the specific context of the school and its partners.

Integrative Partnership Management Cycle: The core of the model, consisting of:

Strategic Planning: Based on joint needs analysis, involving DUDI from the outset, and translating shared goals into actionable plans.

Adaptive Organizing: Combining formal structures (SK, clear roles) with relational flexibility to ensure both accountability and responsiveness.

Integrated Actuating: Focusing on core programs (PKL) while systematically developing supporting programs (teacher internships, guest teachers) to create a holistic learning ecosystem.

Outcome-Based Controlling: Moving beyond administrative monitoring to include systematic evaluation, participatory feedback with DUDI, and the use of tracer studies to measure long-term impact.

Continuous Feedback: Creates an organizational learning mechanism that allows the partnership to continuously evolve. Feedback from evaluations and outcomes feeds back into the planning stage, closing the loop and enabling double-loop learning.

Program Outputs: The direct results of the partnership activities, including quality PKL experiences, synchronized curriculum, enhanced teacher competency, and active MoUs.

Sustainable Outcomes: The ultimate goals of the partnership, including competent graduates (categorized as adaptive workforce with strong career foundations and job-ready workforce with immediate employability), high graduate absorption rates, and sustainable partnerships that endure beyond individual relationships.

Tiered DUDI Engagement Typology: A flexible, multi-level framework for mapping and developing partners based on their capacity and commitment.

The emergence of the two partnership archetypes is influenced by several contextual factors. At Site 1, leadership orientation and institutional values play a crucial role in shaping a more institutionalized partnership model. The shared values between the school and its main industry partner foster trust and long-term commitment, enabling the partnership to evolve gradually into a collaborative system supported by formal structures.

In contrast, Site 2 demonstrates a partnership model driven primarily by operational pragmatism. The school's extensive network of industry partners and the dynamic nature of

the automotive service sector encourage flexible and relationship-based collaboration. While this approach enables rapid implementation of PKL programs and immediate graduate recruitment, the absence of systematic documentation and strategic planning limits the institutionalization of the partnership.

These findings suggest that partnership maturity is influenced not only by managerial functions but also by leadership style, organizational culture, and the characteristics of the industry sector involved.

Tiered DUDI Engagement Typology

This model also offers a flexible and tiered DUDI engagement typology, allowing schools to map and develop partners gradually. This typology is a strategic instrument for strengthening vocational education governance in Indonesia, enabling schools to design differentiated partnership strategies based on the capacity and commitment of each industry partner.

Table 2. DUDI Engagement Typology in the Integrative Model

Level	DUDI Role	Activities	Suitable for DUDI
Basic	Facilitator	Tool grants, scholarships, industrial visit permits	Small-scale DUDI, new to partnerships
Operational	PKL Partner	Providing PKL places, mentoring students, assessing competency	Medium-scale DUDI with labor needs
Collaborative	Program Partner	Involvement in guest teaching, teacher internships, competency tests	DUDI with more capacity, has CSR programs
Strategic	Co-Creator	Curriculum synchronization, Teaching Factory, joint planning, program evaluation	Large DUDI with long-term vision, shared values

Theoretical Contributions and Practical Implications

Theoretical Contributions

This research makes several significant contributions to the theory of educational management, particularly in the context of vocational education partnerships.

First, it recontextualizes the classical POAC framework. Originally designed for intra-organizational management, this study demonstrates that in cross-organizational partnerships like SMK-DUDI, the POAC functions operate in a circular, adaptive, and collaborative manner, rather than a linear, rigid one. The findings show that effective planning is not a one-off event but a continuous, dialogic process that involves partners and responds to feedback. Organizing must balance formal structure with relational networks to be effective in a dynamic environment. Actuating, while crucial, must be supported by robust planning and control to be sustainable. Controlling evolves from internal monitoring to joint, outcome-based evaluation. This reconceptualization extends the applicability of POAC to collaborative and inter-institutional settings.

Second, the study integrates three theoretical lenses—classical management (POAC), collaborative governance, and outcome-based management—to provide a more comprehensive understanding of partnership dynamics. It shows that partnership success is not determined by any single factor but by the interplay of structural, relational, and impact-oriented elements. Trust and shared values (from collaborative governance) provide the relational glue, while systematic processes (from POAC) provide the structural backbone, all directed towards achieving tangible graduate outcomes (from outcome-based management). This integrated framework offers a robust analytical tool for future research on educational partnerships.

Third, the research develops a novel typology of DUDI engagement. By moving beyond a binary view of "partner or not," the typology provides a nuanced framework for understanding the varying levels of industry involvement. This contributes to the literature on stakeholder engagement in education by offering a practical and theoretically grounded tool for categorizing and developing partnerships.

Practical Implications

The findings of this study offer actionable insights for various stakeholders involved in SMK-DUDI partnerships.

For School Principals and Vice Principals for Public Relations:

Map DUDI Profiles: Utilize the Tiered DUDI Engagement Typology (Table 2) to systematically profile existing and potential partners. This allows for the design of tailored engagement strategies. A "Basic" partner should not be expected to act as a "Strategic" partner, and vice versa. Schools should have a plan to nurture partners towards higher levels of engagement over time.

Implement the POAC Cycle Disciplinedly: Move beyond ad-hoc partnership management. Establish clear SOPs for each POAC function. Ensure that planning involves DUDI input, organizing includes clear role distribution (documented in SK), actuating covers both core and supporting programs, and controlling is systematic and feeds back into planning.

Reduce Individual Dependency: Mitigate the risk of person-dependent partnerships by systematizing documentation. All agreements, communication records, evaluation results, and contact information should be documented in a central, accessible repository (e.g., a partnership database or shared drive). This ensures institutional memory and continuity despite staff changes.

For Productive Teachers and PKL Supervisors:

Engage in Continuous Professional Development: Actively participate in teacher internship programs (where available) to update industry knowledge and build personal networks with industry instructors. These networks are invaluable for smooth PKL implementation and can form the basis for more structured collaborations.

Formalize Communication: While informal communication is effective, especially at Site 2, it should be complemented with periodic, scheduled coordination meetings with industry partners. These meetings can be used to discuss student progress, gather structured feedback, and identify areas for curriculum adjustment. Minutes of these meetings should be documented.

For the Vocational School Section (Siswa SMK) at the Regional Education Office:

Shift Policy Focus from Quantity to Quality: Move beyond simply counting the number of MoUs as a performance indicator. Develop policies and evaluation frameworks that reward the quality of partnership processes and outcomes. This could include assessing the depth of collaboration (using the typology), the existence of systematic POAC practices, and evidence of impact on graduate outcomes (e.g., tracer study results, industry satisfaction surveys).

Facilitate Knowledge Sharing: Create platforms (e.g., workshops, online forums, best practice guides) for SMKs to share their experiences and learn from each other. The two models identified in this study – the Gradual Collaborative Model and the Adaptive Operational Model – can serve as case studies for other schools to reflect on their own practices.

Limitations of the Study: This study has several limitations. First, the research was conducted in only two vocational schools, which may limit the generalizability of the findings. Second, the study relied primarily on qualitative data, which may not fully capture the quantitative impact of partnerships on graduate employability. Future research may test the proposed model across multiple regions using mixed-method approaches.

CONCLUSION

This research concludes that SMK-DUDI partnership management is a dynamic system influenced by institutional context, the characteristics of industrial partners, and the school's managerial maturity level. The POAC functions do not stand alone but form a repeating cycle

that determines the quality, sustainability, and impact of the partnership. This study maps two management models: the Gradual Collaborative Model (Site 1) which emphasizes structured and planned strategic partnerships, and the Adaptive Operational Model (Site 2) which excels in field execution but is still weak in strategic management and data integration. These findings indicate that no single universal partnership model exists. Partnership effectiveness is determined by the suitability between the managerial approach, institutional context, and DUDI characteristics. The sustainability of the partnership depends heavily on the school's ability to integrate evaluation results into the planning cycle. This research produces an Adaptive-Strategic Partnership Model for SMK-DUDI Based on POAC and Outcomes that integrates operational effectiveness with strategic system strengthening. This model is equipped with a 4-level DUDI Engagement Typology that allows schools to map and develop partners gradually. Theoretically, this research revises the assumption of classical POAC linearity by showing that in cross-organizational partnerships, management functions operate in a circular, adaptive, and collaborative manner based on outcomes. These findings suggest that strengthening vocational school–industry partnerships requires not only operational collaboration but also systematic managerial governance. The Adaptive-Strategic Partnership Model proposed in this study offers a practical framework for vocational schools to transform administrative partnerships into sustainable strategic collaborations that enhance graduate employability.

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REFERENCES

- Ansell, C., & Gash, A. (2008). Collaborative governance in theory and practice. *Journal of Public Administration Research and Theory*, 18(4), 543–571. <https://doi.org/10.1093/jopart/mum032>
- Arifin, Z., & Rukmana, N. (2006). *Prinsip dan praktik kemitraan*. Alfabeta.
- Billett, S. (2021). Vocational education and the changing world of work. *Journal of Vocational Education & Training*, 73(1), 1–17. <https://doi.org/10.1080/13636820.2020.1850511>
- Bryson, J. M., Crosby, B. C., & Stone, M. M. (2015). Designing and implementing cross-sector collaborations: Needed and challenging. *Public Administration Review*. <https://doi.org/10.1111/puar.12432>
- Bush, T. (2008). *Leadership and management development in education*. SAGE Publications.
- Clarke, L., & Winch, C. (2022). Apprenticeship and industry collaboration in vocational education. *Oxford Review of Education*, 48(3), 275–292. <https://doi.org/10.1080/03054985.2022.2065199>
- Creswell, J. W., & Plano Clark, V. L. (2011). Choosing a mixed methods design. In *Designing and conducting mixed methods research* (pp. 53–106). Sage Publications.
- Emerson, K., & Nabatchi, T. (2020). *Collaborative governance regimes*. Georgetown University Press.
- Fanani, A. (2023). Sinkronisasi kurikulum SMK dan kebutuhan industri. *Jurnal Pendidikan Vokasi Indonesia*, 13(2), 145–156.
- Fiantika, F. R., Wasil, M., Jumiyati, S., et al. (2022). *Metodologi penelitian kualitatif*. Get Press.
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education* (8th ed.). McGraw-Hill.
- Fullan, M. (2020). *Leading in a culture of change* (2nd ed.). Jossey-Bass.
- Handoko, T. H. (2008). *Manajemen personalia dan sumber daya manusia* (2nd ed.). BPFE.
- Lendrum, T. (2013). *The strategic partnering handbook* (6th ed.). McGraw-Hill.

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- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). SAGE Publications.
- OECD. (2023). *Building stronger vocational education and training systems*. OECD Publishing. <https://doi.org/10.1787/28551a79-en>
- Prianto, A. (2021). *Manajemen kemitraan SMK dengan dunia usaha dan dunia industri*. Penerbit Pendidikan Vokasi.
- Rojaki, M., Fitria, H., & Martha, A. (2021). Manajemen kerja sama sekolah menengah kejuruan dengan dunia usaha dan dunia industri. *Jurnal Pendidikan Tambusai*, 5(3), 6337–6349.
- Santika, D., & Rahmawati, L. (2023). Pendidikan kejuruan dan pengurangan pengangguran. *Jurnal Manajemen Pendidikan*, 11(2), 101–115.
- Soleh, M. (2023). Efektivitas praktik kerja lapangan dalam meningkatkan kompetensi siswa SMK. *Jurnal Pendidikan Kejuruan*, 9(1), 55–68.
- Tahshir, M. (2022). Penguatan kemitraan SMK dan industri melalui model kolaboratif. *Jurnal Administrasi Pendidikan*, 29(2), 200–214.
- Terry, G. R. (2012). *Principles of management*. Irwin.
- Undang-Undang Republik Indonesia Nomor 20 Tahun 2003 tentang Sistem Pendidikan Nasional. (2003).
- Wheelahan, L., & Moodie, G. (2020). The governance of vocational education partnerships. *Journal of Education Policy*, 35(4), 560–576. <https://doi.org/10.1080/02680939.2019.1695160>
- Widiatna, A. (2019). *Teaching factory sebagai model penguatan kemitraan SMK dan industri*. Penerbit Pustaka Kaji.