



Strategic management guideline for establishing proactive cooperation between vocational colleges and private organizations for the enhancement of learning achievement of the students of Guangxi Traffic Technician College, China

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ABSTRACT

This article aimed 1) To analyze the needs for strategic management in order to facilitate the establishment of effective collaboration between Vocational Colleges and Private Organization, and 2) To formulate the strategic management guideline for establishing effective cooperation between Vocational Colleges and Private Organization, ultimately leading to an enhanced learning experience for students. The respondents were 316 students and 20 teachers. The research instrument employed in this study was a questionnaire. The information and data collected were analyzed through the content analysis method and then presented in terms of frequency, mean, and standard deviation. The findings from the research indicated that: 1) the needs of students for strategic guideline aimed at fostering effective collaboration between vocational colleges and private organizations to improve student learning experiences was at a high level (4.15), and the needs of the teachers was at a high level (4.43), and 2) the strategic management guideline consisted of ten units, namely: 1) Login, 2) Create Course, 3) Course Construction, 4) Course Assignment and Exam Management, 5) Local File Upload, 6) Add Topic, 7) Add URL, 8) Upload Test Questions, 9) Course Status Statistics, and 10) Student and Class Management.

Introduction

The imperative to establish proactive cooperation between vocational colleges and private organizations emerges from the evolving demands of global educational ecosystems and labor markets. In an era characterized by rapid technological advancements and shifting economic paradigms, vocational education systems face mounting pressure to align curricula with industry needs, ensuring graduates possess both technical proficiency and adaptive competencies. Historically, vocational institutions have operated within siloed frameworks, prioritizing theoretical instruction over practical engagement. However, the disconnect between academic preparation and workplace requirements has precipitated a skills gap, undermining employability and economic growth. This misalignment underscores the urgency for synergistic alliances between educational entities and private-sector stakeholders—a necessity amplified by globalization and the Fourth Industrial Revolution.

The genesis of this issue is rooted in the dual challenges of resource limitations and pedagogical inertia. Vocational colleges often lack access to cutting-edge technologies, industry insights, and experiential learning opportunities, while private organizations struggle to identify talent equipped with job-ready skills. Traditional educational models, emphasizing rote learning over innovation, further exacerbate these disparities. Moreover, the latent potential of collaborative partnerships remains underexploited due to fragmented communication channels, misaligned objectives, and insufficient institutional frameworks. Existing research, while acknowledging the theoretical benefits of such collaborations, offers scant guidance on operationalizing these partnerships effectively. Studies by Jongbloed et al. (2008) and Chou (2012) highlight the transformative potential of academia-industry linkages but fall short of providing actionable strategies tailored to vocational contexts.

The significance of addressing this issue transcends individual institutional success; it is pivotal to national development and social equity. Effective collaboration fosters resource optimization, enabling colleges to leverage private-sector expertise, infrastructure, and funding, thereby enhancing curricular relevance and pedagogical innovation. For students, particularly those from marginalized backgrounds, these partnerships bridge the gap between education and employment, offering internships, mentorship, and real-world problem-solving experiences. Such engagement not only elevates learning outcomes but also cultivates critical soft skills—leadership, teamwork, and adaptability—essential for navigating dynamic labor markets.

Furthermore, the integration of private organizations into educational frameworks stimulates economic resilience. By aligning training programs with industry demands, vocational institutions become catalysts for regional development, driving innovation and competitiveness. Conversely, private entities gain a steady pipeline of skilled workers, reducing recruitment costs and enhancing productivity. Despite these mutual benefits, the absence of standardized guidelines impedes scalability and sustainability, as evidenced by the fragmented initiatives observed in Guangxi Traffic Technician College prior to this study.

In conclusion, the imperative to systematize collaboration between vocational colleges and private organizations is both a response to systemic educational shortcomings and a strategic investment in socio-economic progress. By addressing the structural and operational barriers identified in this research, institutions can transform passive affiliations into dynamic, outcome-driven partnerships, ultimately fostering a skilled workforce capable of meeting 21st-century challenges. This study not only fills a critical gap in scholarly discourse but also provides a replicable model for enhancing educational quality and workforce readiness globally.

Objectives

1. To analyze the needs for formulating strategic management in order to facilitate the establishment of effective collaboration between Vocational Colleges and Private Organization.
2. To formulate the strategic management guideline for establishing effective cooperation between Vocational Colleges and Private Organization, ultimately leading to enhanced learning experience for students.

Literature Review

The concept of synergy in collaboration emphasizes coordinated efforts between individuals or resources to achieve a common goal. Unlike traditional cooperation, collaboration involves dynamic, interactive processes that foster information sharing and resource integration. Such collaboration facilitates the mutual support of system components, enhancing collective performance (Bussaman & Nuankaew, 2017). Synergistic interactions are foundational to effective strategic management, which, according to Wheelen and Hunger (2003), is a structured approach for aligning an organization's resources with external

opportunities, ensuring sustainable progress and adaptation.

In educational settings, learning achievement is often used as a benchmark for the effectiveness of teaching methodologies. Broadbent & Poon (2015) link learning outcomes to active learning strategies and self-regulation, both of which are essential for fostering improved student performance in diverse and strategic environments.

Strategic management in educational institutions also requires a thorough understanding of the interplay between internal capabilities and external partnerships, particularly with private organizations, which can significantly enhance educational outcomes (Kaplan & Norton, 1996).

Conceptual Framework

The conceptual framework underpinning this research focuses on the strategic management guideline needed to establish effective collaborations between vocational colleges and private organizations. This framework considers the synergy between the educational institution's internal capabilities and the external resources available through these partnerships. The successful implementation of these strategies is expected to lead to improved learning outcomes for students, particularly in the vocational education sector. The conceptual framework is as follows:

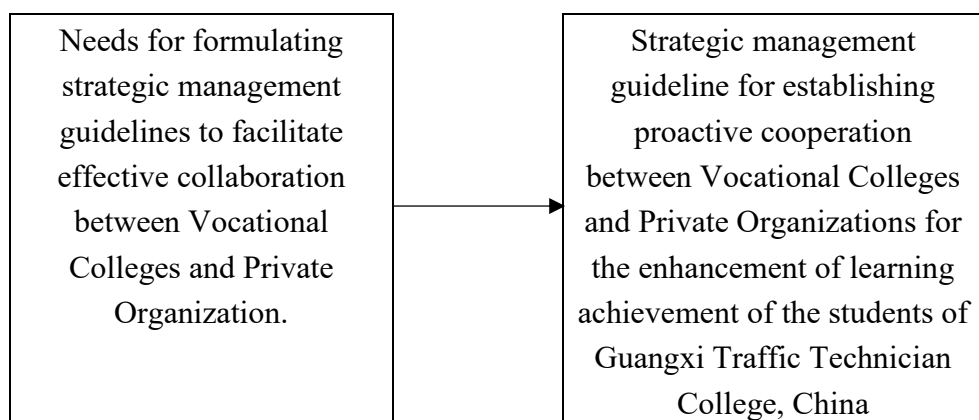


Figure 1. Conceptual Framework

Methods

Mixed methods research was used to analyze the data because it uses both quantitative and qualitative approaches in the research process.

1. Population and sample

The population for this study consisted of students and faculty members at Guangxi Traffic Technician College, located in Nanning city, Guangxi province, China. The college was selected as the case study institution based on its significant role in vocational education within the region. The total population included approximately 1,000 students enrolled in various degree programs and 20 teachers or administrative staff members involved in educational and strategic management processes.

A stratified random sampling technique was used to select a representative sample of 316 students. This sampling approach ensured that the sample reflected the diverse demographics of the student population, including variations in gender, age, and academic discipline. The teacher sample included 20 faculty members, chosen to represent different departments and academic disciplines within the college. The participants were selected based

on their direct involvement in teaching or administrative roles related to the management of student learning outcomes and the implementation of strategic directives.

2. Research instrument

The primary research instruments used for data collection were structured questionnaires and focus group discussions. The structured questionnaires were designed to capture quantitative data regarding the perceptions of students and faculty members about the current state of collaboration between the college and private organizations, as well as the need for strategic management guidelines. The questionnaire consisted of two main sections: the first section collected general demographic information, while the second section focused on specific questions related to the participants' experiences and opinions regarding strategic collaboration. Each item was designed on a five-point Likert scale to assess the respondents' levels of agreement with various statements about the collaboration between vocational colleges and private organizations.

The reliability of the questionnaire was confirmed using Cronbach's alpha coefficient, ensuring internal consistency and dependability of the instrument. Reliability scores for the different dimensions were found to be above 0.80, which indicated satisfactory consistency across all items. To ensure the content validity of the instrument, three specialists in the field of education and strategic management reviewed the questionnaire items. Their feedback resulted in refinement to improve clarity and relevance.

In addition to the structured questionnaire, focus group discussions were conducted with three experts to gather qualitative data. These experts were selected based on their expertise in educational management, vocational training, and the establishment of partnerships between educational institutions and the private sector. The focus group discussions aimed to explore the strategic needs and potential barriers to effective cooperation between vocational colleges and private organizations in greater detail. The discussions were guided by a set of open-ended questions, allowing the participants to provide in-depth insights into the challenges and opportunities in establishing effective collaborations.

3. Data collection

Data collection was carried out in two distinct phases: the distribution of online questionnaires and the facilitation of focus group discussions. For the questionnaire, participants were contacted via the WeChat platform, a popular digital communication tool in China. A total of 336 questionnaires were distributed, with 316 complete responses returned. This high response rate indicates a strong level of engagement and ensures that the data is representative of the student population at Guangxi Traffic Technician College.

The focus group discussions were conducted online using the Zoom platform, allowing experts from various locations to participate. The discussions were scheduled to ensure that each expert could share their perspectives on the strategic management guidelines and the potential for successful collaborations between the college and private organizations. The discussions were recorded and transcribed for subsequent analysis.

4. Data analysis

The data analysis employed both quantitative and qualitative methods to provide a comprehensive understanding of the research problem. Quantitative data collected from the structured questionnaires were analyzed using descriptive statistics, including frequency distributions, means, and standard deviations. The analysis aimed to identify key patterns and trends in the responses related to the perceptions of students and faculty members regarding the effectiveness of current collaborations and the need for strategic guidelines. The Likert scale responses were coded to allow for statistical analysis, and the results were presented in tables and figures for easy interpretation.

Qualitative data from the focus group discussions were analyzed using content analysis techniques. The transcriptions were coded to identify recurring themes, key ideas, and recommendations provided by the experts. The content analysis process was iterative, with multiple rounds of coding to ensure that all relevant insights were captured. The qualitative data provided deeper insights into the specific challenges faced by the college in fostering collaboration with private organizations and offered actionable recommendations for enhancing strategic management practices. Overall, the combination of quantitative and qualitative analysis provided a robust approach to answering the research questions and developing strategic guidelines for effective cooperation

between vocational colleges and private organizations. Statistical analysis and content analysis complemented each other, ensuring that both numerical trends and nuanced insights from expert discussions were incorporated into the final recommendations.

Results

1. Needs for strategic guidelines.

Table 1. The needs of students for strategic guideline.

Questions	\bar{X}	S.D.	Level of needs
1. You hold the perspective that vocational institutions attach significance to engaging in collaboration with schools and educational Private Organization to facilitate student education.	3.97	0.89	High
2. Both educators and students have confidence in the college's ability to effectively leverage parental resources for organizing educational activities, thereby fostering collaborations between higher education institutions and Private Organization.	4.04	0.89	High
3. Both educators and students have confidence in the college's ability to effectively leverage parental resources for organizing educational activities, thereby fostering collaborations between higher education institutions and Private Organization.	4.21	0.80	High
4. Both the educational institution and its students have faith in the teachers' ability to adeptly manage conflicts arising between home and school, while also demonstrating proactive collaboration with educators.	4.26	0.79	High
5. Students demonstrate trust in both their parents and school teachers, actively engaging and collaborating in accordance with the guidance provided by the educational institution.	4.02	0.94	High
6. You express contentment with the present state of collaboration between higher education institutions and Private Organization.	4.11	0.88	High
7. The college promotes pertinent resources and community-based activities to establish a partnership between higher education and Private Organization, enhancing the quality of the educational system.	4.29	0.76	High
8. The college distributes surveys or organizes symposiums to gain insights into the current state of family education among students and to seek input from educational Private Organization for further enhancing their collaborative efforts.	3.97	0.97	High
9. The college establishes diverse communication channels for fostering interaction between home and school, including WeChat groups and direct communication with educational Private Organization.	4.09	0.89	High

Questions	\bar{X}	S.D.	Level of needs
10. The faculty members take the initiative to engage in communication with educational Private Organization, aiming to enhance and elevate the quality of student learning within the college.	4.09	0.92	High
11. Teachers communicate their expectations and academic performance requirements for students to parents, facilitating an exchange of information and contributing to the establishment of a collaborative partnership between higher education institutions and Private Organization.	4.19	0.79	High
12. Students actively participate in school and educational stakeholder communications by expressing their opinions and offering suggestions to teachers.	4.09	0.96	High
13. The college adheres to the principles of educational norms, tailoring course offerings and instructional arrangements in alignment with the developmental characteristics of students at various stages.	4.08	0.94	High
14. The college holds high regard for the efforts and commitment of its teachers, valuing and acknowledging their individual worth. Furthermore, it provides teachers with the autonomy to develop personalized teaching approaches.	4.09	0.92	High
15. Teachers in vocational schools perceive students as autonomous, complete, and distinct individuals, interacting with each student in a manner characterized by fairness and benevolence.	4.27	0.85	High
16. Vocational school teachers attentively listen to students' perspectives and honor their individual interests and passions.	4.42	0.66	High
17. Teachers in vocational schools exhibit a genuine passion for their profession, acknowledge their societal significance and contribution, and hold their role as educators in high esteem.	4.30	0.76	High
18. The college bears the responsibility of providing guidance to educators regarding the techniques involved in fostering collaborative partnerships between schools and educational Private Organization.	4.24	0.78	High
19. The faculty is tasked with organizing initiatives to enhance collaborations between schools and educational Private Organization, guided by the university's directives, aimed at establishing robust partnerships.	4.07	0.93	High
20. It is the responsibility of the students to cultivate strong connections with both the school and educational Private Organization, with the aim of establishing collaborative partnerships that contribute to the enhancement of student learning quality.	4.11	0.93	High
Total	4.15	0.87	High

The data in table 1 showed the needs for strategic guidelines aimed at fostering effective collaboration between vocational colleges and private organizations to improve student learning experiences was at a high level with an average score of 4.15 and a standard deviation of 0.87, indicating a strong consensus on the importance of enhancing collaboration in this context.

Among the highest-rated needs, the most significant is the attentive approach of vocational school teachers, who actively listen to students' perspectives and honor their individual interests, receiving a mean score of 4.42 (S.D. = 0.66). This highlights the essential role of educators in fostering meaningful student engagement and communication. The second highest-rated need pertains to teachers in vocational schools exhibiting passion for their profession and acknowledging their societal contributions, with a score of 4.30 (S.D. = 0.76), emphasizing the necessity for strong teacher commitment and motivation. The third highest-rated need is the college's promotion of pertinent resources and community-based activities to establish partnerships with private organizations, scoring 4.29 (S.D. = 0.76), reinforcing the importance of institutional efforts in creating collaborative networks.

Table 2. The needs of teachers for strategic guidelines.

Questions	\bar{X}	S.D.	Level of needs
1. You hold the perspective that vocational institutions attach significance to engaging in collaboration with schools and educational Private Organization to facilitate student education.	4.40	0.50	High
2. Both educators and students have confidence in the college's ability to effectively leverage parental resources for organizing educational activities, thereby fostering collaborations between higher education institutions and Private Organization.	4.50	0.51	High
3. Both educators and students have confidence in the college's ability to effectively leverage parental resources for organizing educational activities, thereby fostering collaborations between higher education institutions and Private Organization.	4.45	0.60	High
4. Both the educational institution and its students have faith in the teachers' ability to adeptly manage conflicts arising between home and school, while also demonstrating proactive collaboration with educators.	4.45	0.60	High
5. Students demonstrate trust in both their parents and school teachers, actively engaging and collaborating in accordance with the guidance provided by the educational institution.	4.25	0.55	High
6. You express contentment with the present state of collaboration between higher education institutions and Private Organization.	4.50	0.51	High
7. The college promotes pertinent resources and community-based activities to establish a partnership between higher education and Private Organization, enhancing the quality of the educational system.	4.45	0.51	High
8. The college distributes surveys or organizes symposiums to gain insights into the current state of family education among students and to seek input from educational Private Organization for further enhancing their collaborative efforts.	4.35	0.58	High

Questions	\bar{X}	S.D.	Level of needs
9. The college establishes diverse communication channels for fostering interaction between home and school, including WeChat groups and direct communication with educational Private Organization.	4.50	0.60	High
10. The faculty members take the initiative to engage in communication with educational Private Organization, aiming to enhance and elevate the quality of student learning within the college.	4.45	0.51	High
11. Teachers communicate their expectations and academic performance requirements for students to parents, facilitating an exchange of information and contributing to the establishment of a collaborative partnership between higher education institutions and Private Organization.	4.40	0.59	High
12. Students actively participate in school and educational stakeholder communications by expressing their opinions and offering suggestions to teachers.	4.25	0.55	High
13. The college adheres to the principles of educational norms, tailoring course offerings and instructional arrangements in alignment with the developmental characteristics of students at various stages.	4.45	0.51	High
14. The college holds high regard for the efforts and commitment of its teachers, valuing and acknowledging their individual worth. Furthermore, it provides teachers with the autonomy to develop personalized teaching approaches.	4.55	0.60	Highest
15. Teachers in vocational schools perceive students as autonomous, complete, and distinct individuals, interacting with each student in a manner characterized by fairness and benevolence.	4.30	0.57	High
16. Vocational school teachers attentively listen to students' perspectives and honor their individual interests and passions.	4.45	0.60	High
17. Teachers in vocational schools exhibit a genuine passion for their profession, acknowledge their societal significance and contribution, and hold their role as educators in high esteem.	4.30	0.57	High
18. The college bears the responsibility of providing guidance to educators regarding the techniques involved in fostering collaborative partnerships between schools and educational Private Organization.	4.50	0.51	High
19. The faculty is tasked with organizing initiatives to enhance collaborations between schools and educational Private Organization, guided by the university's directives, aimed at establishing robust partnerships.	4.50	0.51	High
20. It is the responsibility of the students to cultivate strong connections with both the school and educational Private Organization, with the aim of establishing collaborative partnerships that contribute to the enhancement of student learning quality.	4.55	0.51	Highest
Total	4.43	0.55	High

The findings from table 2 indicated that that needs for strategic guidelines to strengthen collaboration between vocational colleges and private organizations in order to improve student learning experiences was at a high level. The overall mean score is 4.43, with a standard deviation of 0.55, demonstrating a strong consensus on the importance of enhancing cooperation.

Among the highest-rated needs, the most significant is the college's recognition of teachers' efforts and autonomy in teaching approaches, with a mean score of 4.55 (S.D. = 0.60). This highlights the necessity of acknowledging educators as key facilitators in successful collaboration. Similarly, students cultivating strong connections with both the school and private organizations to build effective partnerships also received a mean score of 4.55 (S.D. = 0.51), reinforcing the importance of student engagement. Following closely, four key needs scored 4.50, with varying standard deviations: providing guidance to educators on fostering collaboration (S.D. = 0.51), leveraging parental resources for educational activities (S.D. = 0.51), expressing contentment with current collaboration efforts (S.D. = 0.51), and improving diverse communication channels for school-private organization interaction (S.D. = 0.60). These results underline the critical role of institutional leadership, effective resource utilization, and communication frameworks in promoting successful cooperation.

2. The strategic management guideline

The strategic management guideline for establishing effective cooperation between Vocational Colleges and Private Organization, ultimately leading to an enhanced learning experience for students consisted of ten units: 1) Login, 2) Create Course, 3) Course Construction, 4) Course Assignment and Exam Management, 5) Local File Upload, 6) Add Topic, 7) Add URL, 8) Upload Test Questions, 9) Course Status Statistics, and 10) Student and Class Management.

Discussion

The findings from both the student and teacher surveys, as well as the expert focus group discussions, provide valuable insights into the current state of cooperation between Guangxi Traffic Technician College and private organizations. The results highlight the importance of strategic management in fostering effective collaborations that can improve student learning outcomes. The following sections discuss the key themes that emerged from the data, including the need for institutional support, enhanced communication, and alignment with industry demands.

1. Addressing the identified needs necessitates a clear understanding of the needs for collaboration, which this study categorizes as follows:

Institutional support and training: Colleges must provide educators with the resources, guidance, and training necessary to build partnerships with private organizations. This need aligns with Daniel's (2011) recommendation for teacher education and professional learning programs to incorporate comprehensive instruction on fostering collaboration.

Valuing educators' roles: Acknowledging teachers' efforts and granting them autonomy in designing teaching approaches are critical steps toward building trust and collaboration. The study highlights the importance of educators feeling empowered in their roles, which aligns with the principles of Chou's (2012) partnership framework, emphasizing quality and risk management.

Promoting student-centered approaches: Encouraging students to participate actively in collaborative processes is essential for fostering a sense of ownership and accountability in their learning journey. Sargent and Water's (2004) framework supports this need by emphasizing the importance of intrinsic and instrumental motivation during the initiation phase of collaboration.

Enhancing communication mechanisms: The study emphasizes the need to establish diverse communication channels, such as interactive platforms and community-based activities, to foster dialogue and exchange between institutions and stakeholders.

2. Based on the needs identified, the following strategic guidelines are proposed to establish

effective cooperation between vocational colleges and private organizations:

Institutional Guidance and Training: Colleges must implement structured training programs and provide educators with resources like the “ICVE” platform to enhance their skills in building partnerships. This aligns with the completion phase in Sargent and Water’s (2004) framework, where success is evaluated based on both objective outcomes (e.g., improved learning achievement) and subjective outcomes (e.g., satisfaction with collaboration).

Technology Integration: Utilizing platforms like the "ICVE" teaching system to streamline administrative tasks, improve communication, and provide tailored resources supports effective collaboration. This reflects the evolving subtext of cooperation highlighted by Ursano et al. (2007).

Student-Centered Practices: Teachers should adopt approaches that listen to students' perspectives, honor their passions, and actively involve them in decision-making processes. By creating spaces for student voices, partnerships can become more inclusive and effective in addressing diverse needs.

Recognition and Empowerment of Teachers: Educators should be given autonomy and recognition for their roles, fostering a sense of ownership and motivation in building partnerships. This is consistent with Chou's (2012) emphasis on partnership commitment and quality management.

Community-Based Initiatives: Colleges should promote partnerships by organizing community activities and leveraging local resources to integrate private organizations into the educational ecosystem. Such initiatives enhance not only student learning outcomes but also the overall educational experience, as suggested by Martin & Hagan-burke (2002).

Body of knowledge

This study introduces a pioneering framework for establishing proactive cooperation between vocational colleges and private organizations, specifically tailored to enhance student learning outcomes at Guangxi Traffic Technician College (GTTC) in China. Its originality lies in synthesizing strategic management principles with educational synergy theories to address a critical gap in practical implementation models for institutional-private collaborations. While existing literature extensively discusses the theoretical benefits of such partnerships, few studies provide actionable guidelines grounded in empirical data from vocational education contexts, particularly within China’s rapidly evolving technical training landscape. By focusing on GTTC as a representative case, this research transcends generic recommendations, offering context-specific strategies that account for cultural, institutional, and socio-economic nuances unique to vocational education systems in developing regions. The development of a ten-unit strategic guideline, validated through rigorous quantitative analysis and expert evaluations, constitutes a significant innovation. Unlike prior frameworks that emphasize unilateral institutional efforts, this study underscores the interdependence of students, educators, and private stakeholders in fostering collaborative ecosystems. For instance, the integration of the ICVE platform—a digital tool for course management and stakeholder engagement—exemplifies the fusion of technological solutions with pedagogical objectives, a dimension underexplored in existing literature. Furthermore, the research identifies and operationalizes critical success factors, such as institutional support for teacher autonomy, student-centered communication channels, and community-driven resource sharing, which collectively address the fragmented approaches observed in earlier studies.

This study is deeply rooted in the theoretical foundations of synergy, strategic management, and collaborative education, while expanding these paradigms through empirical validation and contextual adaptation. The conceptual framework draws from Hermann Haken’s Synergetics Theory, which posits that systems evolve from disorder to order through coordinated interactions between subsystems. Applied to educational contexts, this theory aligns with the research’s emphasis on institutional-private collaborations as catalysts for systemic improvement. By demonstrating how vocational colleges and private organizations can synchronize resources, expertise, and objectives, the study bridges the gap between abstract synergy

concepts and tangible educational outcomes.

The literature review synthesizes diverse scholarly perspectives, from Mortimore's (1993) exploration of learning achievement to Wheelen and Hunger's (2003) strategic management models, creating a multidimensional lens to analyze collaboration dynamics. Notably, the research responds to Jongbloed et al.'s (2008) call for deeper investigation into the practical implementation of institutional-stakeholder partnerships. By incorporating Likert-scale surveys and focus group discussions with 316 students and 20 educators, the study operationalizes theoretical constructs such as effective cooperation and learning excellence, providing measurable insights into stakeholder perceptions and needs. For example, the high mean scores (4.14–4.45) for institutional guidance and teacher-student communication underscore the centrality of structured support and participatory engagement—findings that corroborate Daniel's (2011) advocacy for teacher empowerment but extend it to include private sector integration.

Moreover, the study addresses the paradox identified by Gupta and Choubey (2021): while autonomy and accreditation are critical for educational quality, their realization depends on collaborative networks. The strategic guidelines developed here—such as customized partnership models and technology-driven platforms—offer a roadmap for balancing institutional independence with external collaboration, a balance scarcely addressed in prior works. The emphasis on student agency (e.g., mean scores of 4.25 for student participation in feedback mechanisms) also aligns with González-Pérez and Ramírez-Montoya's (2022) Education 4.0 framework, which advocates for learner-centric approaches in 21st-century skills development.

Crucially, this research enriches the discourse on equity in vocational education. By highlighting the challenges faced by disadvantaged students—such as limited access to technology and industry-aligned training—the study echoes Sitorus et al. (2020) findings on Indonesia's vocational system but introduces actionable solutions like community-based internships and poverty alleviation through skill development. The integration of local private organizations into curriculum design and resource sharing not only enhances employability but also addresses regional economic disparities, a contribution absent in earlier models focused predominantly on urban or developed contexts.

In conclusion, this study advances the body of knowledge by transforming theoretical principles into a scalable, context-sensitive framework. It provides empirical evidence of how strategic management can harmonize educational objectives with private sector capabilities, thereby addressing a critical void in vocational education research. The guidelines' validation through IOC scores (0.67–1.00) and Cronbach's alpha reliability coefficients (0.83–0.90) further ensures their academic rigor and practical applicability, setting a precedent for future studies aiming to bridge institutional divides in global education systems.

Suggestions

1. Recommendations for Implementation

1.1 Establish Strategic Partnerships with Private Organizations: Educational institutions, particularly vocational colleges, should actively seek to establish robust partnerships with private organizations. Such partnerships can offer a wealth of resources, real-world expertise, and valuable insights into industry practices, all of which are critical for enhancing the quality of education and student learning outcomes. Strategic collaborations can include internship programs, mentorship schemes, joint research projects, and work-integrated learning opportunities, which bridge the gap between theoretical knowledge and practical experience. For example, vocational colleges could partner with private companies to offer students hands-on experience in their respective fields, giving them a competitive edge in the labor market. These collaborations should be encouraged and formalized through memoranda of understanding (MOUs) or partnership agreements that define roles, responsibilities, and expected outcomes.

1.2 Develop Customized Collaboration Models: Collaboration models between educational institutions and private organizations should be customized to meet the specific goals, resources, and

challenges of each partnership. A one-size-fits-all approach will not yield the same success across different sectors or institutions. Therefore, vocational colleges need to develop flexible collaboration frameworks that are tailored to the unique context of the partnership. These frameworks should involve clear objectives, resource sharing, and mutual benefits, as well as clearly defined outcomes for both students and industry partners. By creating customized collaboration models, vocational colleges can ensure that partnerships are effectively aligned with the strategic priorities of both the institution and the private organization, ensuring sustainability and achieving the desired educational outcomes. For example, industries with rapidly changing technologies might require vocational programs to incorporate continuous learning modules, ensuring students remain up to date with industry advancements.

1.3 Integrate Private Sector Expertise into Education: To ensure that students gain career-relevant skills, educational institutions should integrate private sector expertise directly into their curricula and teaching methodologies. The incorporation of industry knowledge, cutting-edge technologies, and professional insights into academic programs will help bridge the gap between academic training and real-world application. Vocational colleges should collaborate with industry experts to design curricula that are responsive to the evolving needs of the workforce. Moreover, teachers and instructors should be given opportunities to engage with industry professionals to update their teaching methods, ensuring that they remain aligned with current industry trends. The integration of private sector expertise can also extend to the delivery of specialized workshops, industry visits, and guest lectures, where students can directly engage with experts to understand the demands and expectations of the labor market. This would not only improve student employability but also ensure that the training provided is of the highest relevance to the job market.

2. Recommendations for Future Research and Development

2.1 Explore Determinants of Successful Partnerships: Future research should aim to identify the key factors that contribute to the success of collaborations between educational institutions and private organizations. By examining factors such as institutional commitment, quality management practices, and the ability to manage change, research can provide a framework for building successful and sustainable partnerships. For example, understanding how institutional leadership, strategic planning, and resource allocation affect the outcomes of partnerships will allow for the development of best practices that other institutions can adopt. Additionally, research into the role of governance and accountability structures in these collaborations can help refine the strategies for managing these partnerships effectively. Understanding the determinants of success will also help educational institutions assess and select the right partners, ensuring that the collaboration produces tangible benefits for both students and the industry.

2.2 Examine Long-Term Collaboration Models: It is essential that future research focuses on how to sustain long-term, evolving relationships between educational institutions and private organizations. Many current partnerships may begin with short-term goals and objectives, but for these collaborations to have a lasting impact, they must evolve and adapt to the changing demands of the education sector and the labor market. Research should investigate models that focus on continuity, flexibility, and the ability to adapt to new challenges, ensuring that both parties remain engaged and committed over time. For instance, longitudinal studies could be conducted to track the effectiveness of long-term collaborations, identifying strategies that help maintain momentum and adapt to new technological or economic developments. Additionally, insights into how lessons learned from previous collaborations can be leveraged for future initiatives will be critical in fostering enduring partnerships.

2.3 Address Equity and Inclusivity in Collaboration Benefits: Further studies should investigate strategies to ensure that the benefits of educational collaborations are equitably distributed among all stakeholders, particularly students from diverse socio-economic, cultural, and geographical backgrounds. While partnerships with private organizations can provide numerous advantages, it is important that these benefits do not disproportionately favor certain groups of students, especially those from privileged backgrounds. Research should focus on mechanisms that promote social justice and inclusivity, ensuring that underrepresented students have equal access to internship opportunities, mentorship programs, and

career support. This may involve creating targeted outreach programs, offering scholarships or stipends for internships, or ensuring that collaboration initiatives are designed to benefit a diverse range of students. Furthermore, future research should examine how vocational colleges can leverage these partnerships to reduce educational inequalities, thereby promoting greater social mobility and inclusivity in higher education.

In conclusion, the implementation of these recommendations is crucial for enhancing the quality of education in vocational colleges and ensuring that students are better prepared for the demands of the labor market. By focusing on strategic partnerships, customized collaboration models, and integrating industry expertise into educational programs, vocational institutions can offer a richer, more practical learning experience. Moreover, addressing the challenges and opportunities for future research will help build a framework for sustainable partnerships and ensure that the benefits of these collaborations are shared equitably among all stakeholders. With the right strategic management, vocational colleges can develop meaningful and enduring partnerships with private organizations that enhance student learning outcomes, improve employability, and contribute to the broader economic and social development.

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