



From Garden to School Treasury: The Strategic Role of Public Relations in Optimizing Kindergarten Hydroponic Programs

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Abstract :

This study investigates the strategic role of public relations (PR) management in optimizing hydroponic programs at the kindergarten level. Employing a qualitative descriptive case study design, data were collected through interviews, direct observation, and document analysis, validated using triangulation and member checking. The findings reveal four critical themes: innovation-based program planning with financial independence, structured team organization and role allocation, effective communication and stakeholder engagement, and continuous supervision and evaluation. Collectively, these themes demonstrate how PR transforms hydroponic initiatives from extracurricular activities into sustainable, income-generating school business units. Specifically, PR fosters innovation through creative product processing, enhances credibility via transparent communication, and strengthens institutional resilience through systematic monitoring. This study highlights the novelty of integrating entrepreneurial principles into early childhood education through PR, offering a practical model for schools seeking economic empowerment. The implications highlight the importance of proactive PR as a catalyst for sustainable school programs, enriching educational management literature by linking communication strategies, entrepreneurial practices, and community involvement.

INTRODUCTION

Amid the ever-evolving contemporary education landscape, educational institutions face a dual imperative: not only to organize a quality teaching and learning process, but also to ensure operational sustainability amid limited resources. This phenomenon has prompted the exploration of innovative entrepreneurial initiatives, transforming the school from a mere academic hub to a productive ecosystem (Etzkowitz, 2022; Leal et al., 2023; Schaeffer et al., 2021). A fundamental question arises: How can non-traditional initiatives, such as modern agricultural programs in early childhood education environments, be optimized to achieve pedagogical goals while generating sustainable income? The need for new models that integrate education with real economic practices is becoming increasingly urgent, demanding a holistic approach that goes beyond conventional frameworks. This serves as the starting point for an in-depth examination of the strategic role of public relations in facilitating this transformation.

Entrepreneurship initiatives in educational institutions have become a vital strategy for diversifying funding sources and improving the quality of education (Ben Hassen, 2022; Jaafar et al., 2023; Wang, 2021). Modern agricultural programs, particularly hydroponics, emerged as one of the promising models, offering pedagogical potential in introducing the concepts of sustainability, nutrition, and environmental responsibility from an early age (Ahmed et al., 2024; Fuentes-Peñailillo et al., 2024; Kluczkowski et al., 2024). Additionally, hydroponics presents a significant opportunity to transform into a productive business unit that generates income for schools (Gumisiriza et al., 2022; Sisodia et al., 2021; Sousa et al., 2024). The successful implementation of this kind of program, however, is highly dependent on effective management, especially in the public relations (PR) aspect. Public relations plays a crucial role in building communication bridges, gathering support from various stakeholders, and ensuring that these initiatives can run synergistically and sustainably in the school environment (Adhikari & Shrestha, 2023; Geysi, 2025; Vieira Nunes et al., 2022).

The extensive literature discusses the crucial role of public relations (PR) in shaping the image of institutions and maintaining harmonious relationships with the public. One of the studies conducted by Ju & Dong (2023) provides a detailed description of the theory of public relations dialogue, laying the foundation for a deeper understanding of these interactions. In addition, research conducted by Toukabri & Toukabri (2023) and Perechuda & Čater (2022), which elaborates on PR practices in various domains such as government and sports, confirms its relevance in diverse sectors. Additionally, resource management theory emphasizes the importance of using resources efficiently to achieve organizational goals (Ahsan, 2025; Ogutu et al., 2023; Sun et al., 2023). This concept is evident in studies related to sustainable agricultural technology by Khan et al. (2021), hydroponic research by Stegelmeier et al. (2022), as well as an analysis of agricultural subsidy schemes by Heyl et al. (2022). Although these studies have laid a solid foundation for public relations and resource management, the specific integration between the two in the context of community-based entrepreneurship programs in early childhood education still requires further exploration to fill the existing knowledge gap.

Although the literature has underscored the importance of PR in building an image and resource management in operational efficiency, there is still a significant gap in the comprehensive understanding of how PR management specifically integrates entrepreneurial principles in community-based programs at the early childhood education level, particularly in the context of increasing school revenue through product innovation. Previous research has often focused on general communication or program management aspects separately, without explicitly analyzing the synergies between proactive PR roles, income generation strategies, and community engagement in a single holistic framework. This gap raises crucial questions regarding the operational and strategic mechanisms that enable such programs not only to survive but also to thrive optimally.

This study contributes by holistically analyzing the synergy of public relations management, innovative income strategies, and community involvement in the hydroponic program at Nurul Islam Jatirejo Kindergarten. Its novelty lies in integrating these elements within a comprehensive PR framework at the early childhood level, an area still underexplored. Rather than separating communication and program management, this research presents a model showing how PR can transform pedagogical programs into sustainable business units, offering new insights into school economic empowerment through community-based initiatives.

Based on the identified research problems and gaps, this study aims to analyze the crucial role of public relations management in optimizing the hydroponic program in Nurul Islam Jatirejo Kindergarten (Taman Kanak-Kanak). The significance of this research lies in its contribution to renewing perspectives on the importance of public communication in managing school economic empowerment programs, as well as providing practical recommendations for other educational institutions that want to develop similar initiatives, as well as enriching the treasures of education management science, especially in the field of public relations in the context of schools.

RESEARCH METHOD

This study adopts a qualitative descriptive single case study design to in-depth explore the role of public relations management (PR) in optimizing the hydroponic program at Nurul Islam Jatirejo Kindergarten. The selection of this design is based on the need to understand the phenomenon holistically and contextually, as recommended by Lim (2024), which emphasizes a comprehensive depiction of field reality. The design of the case study enables the researcher to examine in detail the interactions, processes, and outcomes of a hydroponic program in a specific environment, namely a kindergarten, which is relevant to the research objective of analyzing the role of public relations management in increasing school revenue. The context of Nurul Islam Jatirejo Kindergarten in Lumajang Regency is very relevant because it reflects community-based initiatives that have the potential to be replicated in other educational institutions. The qualitative research approach was chosen because it provides a theoretical foundation for understanding social phenomena in a natural context, allowing researchers to capture the meanings, experiences, and perceptions of the subject in depth, according to their views Bazen et al. (2021) and Urcia (2021) about the interpretive nature of qualitative research. This approach is essential to explore the complex dynamics of public relations management and its interaction with various stakeholders in the success of hydroponic programs.

Data collection in this study was conducted through the triangulation of sources and methods, involving observation, in-depth interviews, and document analysis, to ensure the credibility of the findings. Direct observation was conducted at Nurul Islam Jatirejo Kindergarten from November 4 to November 29, 2024, focusing on public relations management activities within the hydroponic program, utilizing observation sheets to record communication and management aspects. Structured in-depth interviews were conducted with two key informants: the Principal and the Public Relations Division of Nurul Islam Jatirejo Kindergarten. These interviews aimed to gather information about their role in optimizing the hydroponics program, using interview guidelines that had been prepared and recorded to ensure data accuracy. Documentation analysis included the collection of school profiles, hydroponic program schedules, meeting minutes, and related reports, using document checklists. Researchers act as the primary instruments directly involved in the field, collecting data from primary sources. To ensure the validity of the data, data triangulation was employed by comparing the results of the three data collection methods, as well as through member checking via discussions with key informants to validate the initial findings.

Qualitative data analysis is carried out systematically through several stages: data collection, data reduction, data presentation, and withdrawal. Conclusion (Hernita et al., 2021; Ray et al., 2021; Xiang et al., 2021). At the data collection stage, all information from observations, interviews, and documentation is collected. Furthermore, data reduction is carried out by filtering and summarizing the data that is most relevant to the research focus, specifically public relations management in the hydroponic program. After the data were reduced, they were presented in the form of a descriptive narrative, describing the situation and conditions of the hydroponic program management and the role of public relations at Nurul Islam Jatirejo Kindergarten. Thematic analysis techniques are employed to identify patterns, themes, and categories that emerge from the data, enabling researchers to develop a comprehensive understanding of the phenomenon being studied. This technique was chosen because it is well-suited for qualitative studies, where the goal is to reveal the meaning and experience of the research subject in a rich and detailed manner. Conclusions were drawn after a thorough analysis of the data, explaining how public relations management can optimize the hydroponic program. These measures significantly contribute to increased credibility and consistency in the interpretation of the data, ensuring that the research results are not only in-depth and detailed but also accurately reflect the realities observed in the field.

RESULT AND DISCUSSION

Result

This section presents research findings on the optimization of public relations programs (PR) in managing hydroponic programs at Nurul Islam Jatirejo Kindergarten. Data obtained through in-depth interviews, documentation, and field findings were analyzed thematically. Four main themes were found that describe the entire program management process, namely: (1) Innovation-Based Program Planning and Financial Independence; (2) Team Organization and Structured Role Division; (3) Communication and Stakeholder Engagement; and (4) Continuous Supervision and Evaluation for Program Sustainability as attached in figure 1.

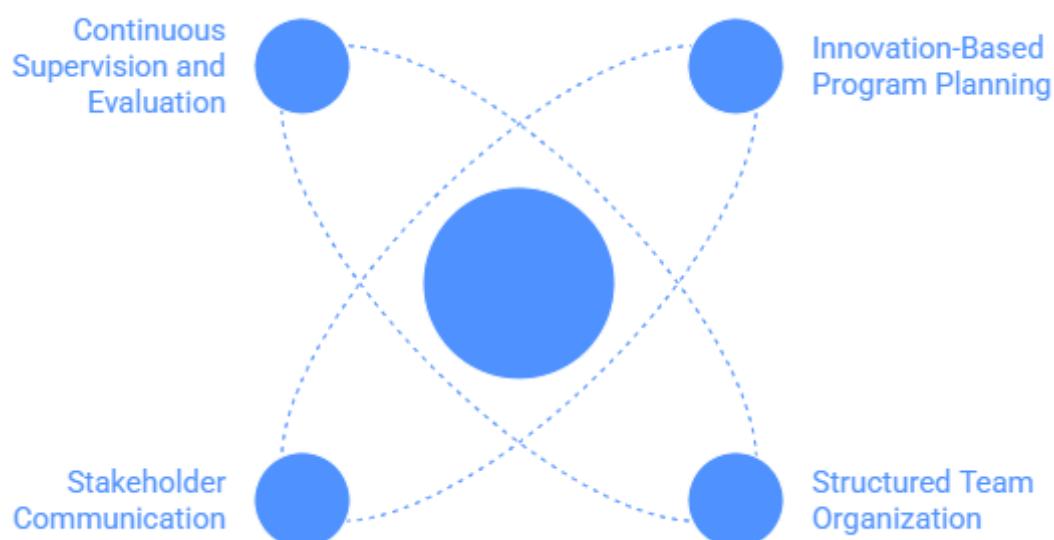


Figure 1. Optimizing Public Relations in Hydroponics

Innovation-Based Program Planning and Financial Independence

Program planning based on innovation and financial independence refers to the process of formulating strategies that are not only oriented to program implementation but also to achieving economic goals independently. Within the context of the hydroponics program at Nurul Islam Kindergarten, this planning involves developing creative ideas for crop processing and implementing an effective capital turnover strategy. The principal and the committee initiated this initiative to make the hydroponic program a productive and sustainable business unit, one that is not dependent on external funding. The primary focus is to convert agricultural products into high-value products, thereby generating significant income for the institution. Careful planning at the beginning is the primary foundation for the program's long-term success.

Through interviews, it is shown that the primary key to planning this program is a creative capital turnover strategy. The management not only thinks about selling raw crops, but also develops them into innovative processed products. This is evidenced by the following statement from the public relations division, "Our planning from the beginning is indeed focused on how capital can be quickly turned. So, we not only sell fresh vegetables from hydroponics, but also process them into innovative products such as ice cream and vegetable nuggets. The goal is to have added value and attractiveness, so that the initial capital can quickly return and this program can be financially independent (I_Humas_2025)." Furthermore, the principal also emphasized that careful planning is the main direction to ensure that the program runs according to the goals that have been set, especially in terms of increasing school income, where he said that, "All activities must be well planned. We set the targets, procedures, and rules of the game at the beginning. The strategy of processing crops into other products such as nuggets is part of our grand plan to optimize this hydroponic program as a source of sustainable school income (I_KS_2025)."

Based on the two quotes above, the planning of the hydroponic program at Nurul Islam Kindergarten is not conventional. There is a strong emphasis on product innovation and financial independence. The statement from the first informant explicitly mentioned product diversification (ice cream and vegetable nuggets) as a strategy to increase selling value and accelerate capital turnover. This suggests that an entrepreneurial mindset extends beyond traditional farming activities. On the other hand, the principal's statement also emphasized that this planning was carried out systematically with clear targets and procedures. This reflects a structured managerial approach, where the hydroponics program is positioned as a school business unit, rather than just a regular extracurricular program.

Findings in the field also confirm and reinforce, as well as provide empirical evidence for the interview data. This validation is realized through the discovery of formal and comprehensive program planning documents. The document not only contains general ideas but also details of product processing strategies, clear quantitative sales targets, and detailed budget allocations for the purchase of processed raw materials. Furthermore, in the school area, there is preparation of supporting infrastructure, which is a physical manifestation of the plan. Simple facilities for processing vegetables into finished products, including hygienic and functional clean kitchen areas, have been established and are actively utilized by team members. The existence of this small-scale production center demonstrates that planning extends beyond the level of ideas, having been implemented concretely and systematically in the form of real action within the school environment.

The hydroponic program planning at Nurul Islam Kindergarten is carefully designed with a strong entrepreneurial vision, going beyond the conventional program framework. This vision is manifested in a dual strategy that is the primary differentiating element: a focus on product innovation to create added value and the implementation of an effective capital turnover strategy. This combination consciously steers the program toward financial independence. Therefore, this careful planning serves more than just operational guidance; It becomes a fundamental strategic blueprint. This foundation not only ensures the smooth running of daily technicalities but also crucially positions the hydroponic program as a productive asset and a significant source of sustainable income for the school.

Team Organizing and Structured Role Sharing

Organizing, in this context, refers to the process of structuring human resources and systematically dividing tasks (or job desks) to achieve program goals efficiently. At Nurul Islam Kindergarten, the organization of the hydroponic team is carried out by placing each member according to their expertise and capacity. A clear team structure, starting from the Chairman, Secretary, Treasurer, to technical divisions such as equipment and business, is the backbone of program implementation. Although each member has specific responsibilities, the principles of cooperation and good coordination remain paramount. An effective organization ensures that every aspect of the program, from nurseries to marketing, can run synergistically and avoid overlapping work.

The importance of placing members according to their expertise and the need for solid coordination were the main points revealed from the interview. The public relations division explained how this organizing process was carried out to maintain the smooth running of the program. "In organizing, we place each member according to his or her expertise. Some are experts in the nursery section, while others excel in promotion within the business division. However, most importantly, coordination between parts must work. All members must be actively involved so that the program runs smoothly and there is no overlap in work (I_Humas_2025)." This statement is supported by the principal, who emphasizes that a clear organizational structure is crucial for making monitoring easier and ensuring that everyone is accountable for their duties. "We have made the organizational structure clear. There are the Chairman, Secretary, Treasurer, and other divisions. That way, it is easier for me to monitor performance and everyone knows what to do. This makes the cooperation between the divisions work well and all plans can be executed correctly (I_KS_2025)."

The statements provided by the two informants above show that the organizational aspect of the hydroponic program is carried out with a modern managerial approach. According to the statement delivered by the first informant, there are two main principles: a competency-based division of labor ("according to expertise") and active coordination. This suggests that a team's effectiveness depends not only on the expertise of its members but also on their ability to collaborate effectively. The same point was also emphasized by the principal, who stated that this was done by clearly outlining the formal structure ("we made the organizational structure clear"). The existence of a documented structure, such as those listed in Table 1, facilitates accountability and simplifies the oversight process. Both of these views affirm that a successful organization is a combination of proper personnel placement and the existence of a clear framework.

Table 1. Jobdesk Sharing

No	Status	Jobdesk Information
1	Chairman	Its duties are to regulate, supervise, and take full responsibility for the implementation of the hydroponic program
2	Secretary	His duties as a Memorandum of Understanding (ACT) are to take notes related to the discussion of each meeting activity
3	Treasurer	His task is to manage finances, including both expenses and income related to the hydroponic program.
4	Equipment Division	His task is to prepare the necessary equipment for implementing the hydroponic program and oversee the nursery's requirements.
5	Public Relation	His task is to bridge between institutions and the community to improve the good image of institutions in the community
6	Bussiness Division	Its task is to promote and reprocess hydroponic plants as raw materials for creating and innovating food or beverages, thereby increasing school income from the results of the hydroponic program.

Table 1 presents a functional organizational structure for implementing hydroponic programs, defining six key roles. The Chairman holds the highest authority, fully responsible for the regulation and supervision of the program. The Secretary's role focuses on documentation, ensuring an accurate recording of every discussion and decision. The financial aspects are managed by the Treasurer, who is responsible for the entire financial cycle, from expenditures to program revenues. The Equipment Division is crucial in ensuring the availability and maintenance of infrastructure facilities, as well as supporting nursery operations. Public Relations plays a strategic role in building and maintaining a positive image of the institution through communication bridges with the community. Finally, the Business Division has a mandate to promote hydroponic products and develop refined innovations for revenue optimization, affirming the program's orientation on economic value. This structure is designed to ensure the efficiency, accountability, and sustainability of hydroponic programs.

Based on the presentation of the previously submitted findings, it is clear that the organization of the hydroponic program at Nurul Islam Kindergarten is implemented in a structured manner and demonstrates a high level of professionalism. The existence of an explicitly defined division of roles, based on the expertise of each individual, and supported by a formal organizational structure, is the primary foundation for program efficiency and coordination. This management approach not only facilitates a more effective oversight process but also significantly optimizes the contribution of all human resources involved, ensuring that each personnel can actualize their capacity to the fullest. Ultimately, the synergy generated by this organizing pattern effectively supports the comprehensive and sustainable achievement of the hydroponic program's goals.

Communication and Stakeholder Engagement

Communication and stakeholder engagement refer to the process of building constructive relationships between institutions and internal and external parties in order to ensure sustainability and support for the programs being run. In the context of the Nurul Islam Kindergarten hydroponic program, communication is carried out regularly through internal forums such as meetings, as well as externally through approaches to community leaders and parents of students. The role of public relations is highly strategic, serving as the primary liaison that manages interactions, fosters trust, and facilitates access to external resources, including licensing, funding, and product marketing. Engaging stakeholders not only expands the support network but also fosters a sense of ownership of the program.

The communication process is carried out thoroughly with a deliberative and collaborative approach. The Public Relations Division explained, "For internal communication, we usually deliberate every time there is a policy and maintain ethics. For external, we involve guardians of students who are also community leaders such as the wife of the village head. This really helps, both in terms of permits and product marketing..." (I_Humas_2025). The principal emphasized the importance of a joint forum to maintain synergy, "We schedule regular meetings. All parties from the school and the committee sit together. This forum is a place to discuss progress, obstacles, and find solutions. So that there is no miscommunication and the program runs smoothly." (I_KS_2025).

The results of this interview confirm that communication in the program is managed deliberately and collaboratively, both internally and externally. Within the internal environment, the practice of deliberation serves as the primary mechanism for decision-making, while upholding organizational ethics, thereby fostering a conducive and participatory atmosphere. Meanwhile, at the external level, the involvement of community leaders and student guardians is an important strategy to expand support, simplify administrative processes, and increase the effectiveness of program promotion. The principal emphasized that the regular forum is a constructive dialogue space, where all parties can share developments, obstacles, and agree on solutions together. This mechanism not only prevents miscommunication but also ensures the smooth implementation of the program.

Building on this, it is evident that effective communication and active stakeholder involvement are crucial factors in enhancing the sustainability of the hydroponic program at Nurul Islam Kindergarten. The communication approach is carried out comprehensively, both internally and externally, by prioritizing the value of deliberation and partnership. The involvement of community leaders, parents, and donors provides moral, administrative, and logistical support that directly contributes to the program's success. Findings in the field reinforce that communication is not just about delivering information, but about building social networks that expand the reach and influence of programs. Thus, the synergy between planned communication and active stakeholder participation forms a collaborative ecosystem that greatly supports the sustainability and replication of similar programs in other educational settings.

Continuous Supervision and Evaluation for Program Sustainability

Continuous supervision and evaluation is a series of monitoring and assessment activities that are carried out periodically and systematically to ensure that programs are running as planned, identify problems, and measure the achievement of objectives. In the management of the hydroponics program at Nurul Islam Kindergarten, this process is a crucial quality control mechanism. Supervision is conducted on a scheduled basis to directly monitor team performance and program progress. Meanwhile, evaluations are conducted monthly through a joint meeting forum involving all relevant parties, including the school committee. This approach enables the team to respond promptly to any obstacles that arise and make necessary adjustments, thereby maintaining the program's sustainability and optimization.

The informants emphasized the importance of strict supervision and routine evaluation. The principal explained why the supervision in this program is carried out specifically and continuously. "We carry out supervision of this program in a special, scheduled, and continuous manner. This is not a side program, but one of the school's sources of income. Therefore, both structure and performance must be constantly monitored. If there is a problem, we can immediately deal with it quickly so that it does not drag on (I_KS_2025)."

The interview explained the importance of strict and continuous supervision of the program. This program is not considered an additional activity, but rather a vital source of income for the institution. This fosters a proactive approach to ensuring that the program's performance and structure are continually monitored. The organization demonstrates a strong commitment to the prompt and efficient resolution of problems, to prevent potential obstacles from developing into larger issues. This approach reflects the understanding that careful and responsive management is crucial to maintaining the financial and operational stability of the program. The implication is the existence of an organized monitoring system to ensure the sustainability and effectiveness of the program as an economic pillar of the institution.

Based on the exposure of the findings described earlier, a solid supervision and evaluation mechanism is the central pillar for the success and sustainability of the hydroponics program at Nurul Islam Kindergarten. Listening to the description, this process, designed in a scheduled, sustainable, and participatory manner, proves crucial. From the managers' point of view, implementing adequate supervision and evaluation enables them to maintain the quality of program implementation, respond promptly to emerging challenges, and proactively make continuous improvements. Thus, supervision and evaluation go beyond their primary function as a control instrument; they transform into a vital driving force that drives long-term program optimization, ensuring constant adaptation and innovation to achieve better educational goals.

Discussion

This research reveals that public relations management (PR) plays a central role in optimizing the hydroponic program at Nurul Islam Jatirejo Kindergarten. The four main themes that emerged from the data included innovative and financially oriented program planning, team organization with structured role sharing, effective communication and stakeholder engagement, and continuous supervision and evaluation. These findings collectively demonstrate how an integrated public relations approach enables hydroponic programs to become not only extracurricular activities but also a significant source of income for schools.

The findings of this study make an important contribution to the local culture-based leadership literature by emphasizing the relevance of traditional principles, such as cooperation and deliberation, in addressing the challenges of globalization. This research aligns with previous studies that have found the integration of local values in leadership to strengthen cultural identity and support organizational sustainability (Leal et al., 2023; Schaeffer et al., 2021; Wang, 2021). The research also develops a leadership theory that combines social and cultural dimensions in the modern context, in contrast to Western leadership approaches that emphasize more material efficiency and individualism (Fuentes-Peñailillo et al., 2024; Gumisiriza et al., 2022; Sisodia et al., 2021). Although research has highlighted the importance of local values in organizations (Jaafar et al., 2023; Kluczkowski et al., 2024; Sousa et al., 2024),

This research applies a theoretical framework of Sensemaking to understand how local values, such as cooperation and deliberation, influence decision-making and organizational culture. This theory aligns with findings that demonstrate foundation leaders as facilitators in integrating diverse perspectives to achieve consensus (Hernita et al., 2021; Schaeffer et al., 2021; Sisodia et al., 2021). These findings enrich theoretical understanding of Sensemaking by incorporating social and cultural dimensions in the context of local values-based leadership, where leaders are not only decision-makers but also keepers of tradition. Nonetheless, these findings differ slightly from the theory of Sensemaking, especially in its application within larger organizations or with different cultural backgrounds (Kluczkowski et al., 2024; Sisodia et al., 2021; Toukabri & Toukabri, 2023). This research contributes to the development of this theory by showing that Sensemaking can be applied not only in the context of individualism-oriented organizations but also in organizations with strong collective values.

The implications of these findings are highly relevant for research, policy, and practice. For future research, it is recommended that the observed internal efficiency-based organizing model be examined more deeply to determine how it can be integrated with stronger two-way communication strategies, including feedback mechanisms from the external community. Further research can investigate the long-term effects of hydroponic product innovations on school income and program sustainability across various geographic and demographic contexts. For policy, these findings suggest the need for a policy framework that supports entrepreneurial initiatives in educational institutions, as well as incentives for schools to develop community-based programs that integrate local values and environmental sustainability. Policies can encourage collaboration between schools, local governments, and the private sector to provide the necessary training and resources. For practitioners, practical recommendations include strengthening the role of public relations in facilitating more intensive two-way communication with all stakeholders, not only in the delivery of information but also in the decision-making process. Ongoing training on product innovation and more advanced hydroponic techniques should also be provided to staff and parents of students to enhance the capacity and quality of program outcomes.

This research confirms that locally values-based leadership, such as cooperation and deliberation, plays a crucial role in creating organizations that are not only effective but also sustainable. These findings make a significant theoretical contribution by demonstrating that local values, often overlooked in Western models of leadership, have considerable relevance in strengthening the relationship between organizations and communities. This research also opens up opportunities for further studies on the application of local wisdom-based leadership models in various organizations. Thus, this research enriches leadership theory and offers practical solutions for maintaining a balance between modernity and tradition in organizational management. Specifically, this study enriches the theory of Sensemaking by demonstrating its application in collectivism-oriented organizations, as well as providing a new understanding of how public relations can catalyze community-based income improvement programs in educational institutions.

CONCLUSION

This study emphasizes the strategic role of public relations in transforming a kindergarten hydroponic initiative into a sustainable and income-generating program that benefits both the institution and its wider community. Through a qualitative case study at Kindergarten Nurul Islam Jatirejo, four key mechanisms were identified: innovation-oriented planning aimed at achieving financial independence, effective team organization, strategic communication with stakeholders, and ongoing supervision and evaluation to ensure accountability. Public relations practices were found to play a pivotal role in building credibility, fostering collaboration, and promoting transparency, thereby enhancing both the institutional image and community trust. The initiative successfully demonstrated how public relations can bridge educational innovation with entrepreneurial practices, enabling schools to diversify income sources while enriching the learning environment. These findings provide a practical model of governance and sustainability that can be adapted by other educational institutions and policymakers seeking to empower schools through innovation, financial resilience, and inclusive participation.

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