

Research Article

Strategic Management Strategies in Nonformal Education Program Administration in Indonesia's 3T Region

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Abstract: This study examines strategic management practices in the administration of nonformal education programs within Indonesia's 3T regions—areas characterized by geographical isolation, limited infrastructure, and socioeconomic challenges. The research aims to identify effective management strategies that enhance institutional sustainability, leadership performance, and community participation in nonformal educational settings. Employing a qualitative narrative review approach, this study synthesizes findings from 45 peer-reviewed publications published between 2019 and 2025, encompassing themes of adaptive management, participatory leadership, policy integration, and digital innovation. The analysis reveals that institutions adopting flexible and context-responsive strategies supported by collaborative governance and technological integration demonstrate higher resilience and alignment with local educational needs. Furthermore, the review highlights the importance of leadership adaptability, stakeholder engagement, and community-based governance as central pillars for achieving sustainable education outcomes in resource-limited contexts. The study contributes theoretically by proposing a model of “localized strategic adaptability,” which integrates principles of strategic management with participatory education governance, and practically by offering evidence-based insights to guide policymakers and administrators in strengthening nonformal education systems.

Keywords: Adaptive Leadership; Community-Based Governance; Indonesia 3T Regions; Nonformal Education; Strategic Management.

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1. Introduction

Nonformal education has emerged as an essential component in addressing educational disparities and promoting lifelong learning across Indonesia, particularly in Daerah 3T (Terdepan, Terpencil, dan Tertinggal frontier, outermost, and disadvantaged regions). These areas often face limited access to quality education, infrastructural inadequacies, and a shortage of professional educators, resulting in significant challenges for both learners and education managers (Ridwan et al., 2025). Within this context, nonformal education programs serve as strategic tools for fostering community empowerment and human capital development, complementing formal education systems in regions where traditional schooling models may not function effectively (Yudhyani & Ali, 2025). The Indonesian government's commitment to equitable educational access, as outlined in the Merdeka Belajar policy framework, underscores the urgency of developing adaptive management strategies that align with local contexts and socio-cultural realities (Febriana et al., 2018).

Despite national efforts, there remains a significant gap between policy intentions and the practical realities of managing nonformal education in 3T regions. Challenges such as limited funding, insufficient human resources, and weak managerial capacities hinder program sustainability and effectiveness (Putri et al., 2021). Moreover, existing management frameworks often rely on urban-centric models that fail to consider the socio-geographical uniqueness of remote regions (Kurniati et al., 2024). While formal education management research has developed robust models for institutional governance, there remains limited scholarly attention toward strategic management practices tailored specifically for nonformal education in marginalized contexts (Haryanti et al., 2022). This gap necessitates a focused academic inquiry into adaptive and contextually grounded management strategies that can enhance the operational resilience and sustainability of nonformal education programs.

The theoretical foundation of this study is grounded in the perspective of Strategic Management Theory, which emphasizes adaptability, environmental analysis, and resource optimization to achieve organizational goals under dynamic conditions (Marriott et al., 2005). This framework is complemented by Community-Based Education Theory, which underscores the participatory and contextual nature of learning initiatives in remote and marginalized communities (Malihah & Tanszil, 2018). By integrating these theoretical perspectives, this research seeks to conceptualize nonformal education management not merely as administrative coordination but as a strategic process of resource mobilization, local engagement, and adaptive leadership. The use of a narrative review approach allows for a comprehensive synthesis of empirical evidence and conceptual models relevant to education management in remote contexts (Innovative Leadership Strategy, 2023).

The objective of this study is to analyze and synthesize existing literature on management strategies employed within nonformal education programs in Indonesia's 3T regions. Specifically, it aims to identify best practices, highlight challenges, and propose a conceptual framework for effective management under limited-resource conditions. The central research question guiding this narrative review is: What strategic management approaches are most effective in enhancing the performance and sustainability of nonformal education programs in Indonesia's 3T regions? This inquiry aligns with broader national goals for inclusive and equitable quality education, as stated in Sustainable Development Goal 4, emphasizing the need for adaptive management and innovation in educational practice (Noya et al., 2023).

This study contributes to the academic discourse by offering a theoretically grounded and empirically informed synthesis of management strategies for nonformal education in underdeveloped regions. Unlike prior studies focusing solely on formal institutional governance, this research advances a localized strategic framework that incorporates community participation, contextual adaptation, and intersectoral collaboration (Kalina et al., 2022). Its novelty lies in integrating strategic management principles with the unique operational realities of 3T education programs, thereby bridging theoretical gaps and providing practical insights for policymakers, educators, and development practitioners. By emphasizing adaptive and inclusive management paradigms, this study aims to strengthen the sustainability of nonformal education initiatives and support Indonesia's broader educational equity agenda (Suryanto et al., 2017).

2. Preliminaries or Related Work or Literature Review

The conceptual foundation of this study is rooted in strategic management theory, which provides a comprehensive framework for aligning organizational resources, leadership, and decision-making to achieve long-term sustainability. Originating from Mintzberg's and Chandler's foundational models, strategic management emphasizes adaptability, environmental scanning, and the integration of internal and external capabilities to maintain organizational resilience. Recent studies have expanded this theory's relevance to the education sector, emphasizing its role in institutional governance, policy alignment, and performance improvement in resource-constrained environments (Susilo et al., 2025). Within nonformal education, strategic management provides a conceptual lens for understanding how educational programs can effectively adapt to sociocultural and logistical constraints, particularly in remote or disadvantaged contexts.

Furthermore, when integrated with community-based education theory, this framework underscores participatory leadership and local stakeholder engagement as essential dimensions of educational sustainability in Daerah 3T (frontier, outermost, and disadvantaged regions) (Innovative Leadership Strategy, 2023).

Empirical studies on nonformal education management in Indonesia highlight the diverse strategies applied by educational institutions to enhance program quality and outreach. For instance, strategic marketing and adaptive resource management in nonformal tutoring centers have proven effective in sustaining learner engagement and institutional competitiveness (Yudhyani & Ali, 2025). Similarly, the implementation of leadership-based management systems has demonstrated significant potential in strengthening human resources in educational institutions, emphasizing vision-oriented governance and performance accountability (Juharyanto et al., 2023). In addition, studies on curriculum innovation in nonformal settings underscore the necessity of policy coherence and localized adaptation of national education frameworks such as the Merdeka Belajar initiative (Latief et al., 2024). Collectively, these studies demonstrate the strategic role of leadership, planning, and contextual sensitivity in enhancing nonformal education outcomes across Indonesia's remote regions.

However, a critical review of recent literature reveals notable gaps in both theoretical development and empirical application. First, the existing body of work is heavily concentrated on formal education systems, leaving nonformal education management in peripheral regions relatively underexplored (Arifin et al., 2024). Second, most studies adopt descriptive or policy-oriented frameworks without a strong theoretical grounding in strategic management principles, thereby limiting their ability to explain organizational dynamics under conditions of uncertainty (Marlina et al., 2023). Third, there is a lack of longitudinal and comparative analyses assessing the sustainability and scalability of strategic approaches across diverse nonformal education models (Illiyina et al., 2025). Moreover, while community engagement is often cited as essential for educational success, empirical assessments of participatory management mechanisms in 3T contexts remain limited (Hidayatullah, 2018).

This article seeks to address these gaps by synthesizing the intersections between strategic management theory, adaptive leadership, and nonformal education practices in 3T regions. The study distinguishes itself by applying a qualitative narrative review approach to integrate diverse conceptual and empirical insights, thereby constructing a holistic framework for strategic nonformal education management. By bridging the divide between theory and practice, this research aims to contextualize how adaptive leadership, stakeholder participation, and resource-based planning interact to support educational resilience in geographically isolated communities (Muafi & Johan, 2022). This integrative stance provides both analytical depth and applied relevance, contributing new perspectives to the discourse on educational management in emerging economies.

Prevailing trends in previous research indicate a shift toward integrated and adaptive management paradigms that blend organizational strategy with sociocultural and technological dimensions. Studies in educational and institutional management demonstrate increasing reliance on strategic accounting, digitalization, and participatory governance to enhance efficiency and stakeholder accountability (Sriyono et al., 2022). Similarly, the emphasis on leadership transformation, especially in resource-limited settings, highlights the importance of motivational and ethical frameworks for sustaining institutional commitment and innovation (Susilo et al., 2025).

In the context of education, strategic management approaches have increasingly incorporated contingency-based and evidence-driven decision-making models to optimize performance, enhance resource distribution, and address inequality between urban and rural institutions (Setiawan et al., 2023).

Synthesizing these theoretical and empirical perspectives suggests that the development of effective management strategies for nonformal education in Indonesia's 3T regions requires a hybrid model that integrates strategic adaptability, community participation, and context-specific leadership innovation. The interplay between strategic planning, local empowerment, and resource optimization forms the conceptual foundation for sustainable educational management in remote areas (Damayanti, 2021). Through this

synthesis, the present study positions itself to articulate a conceptual framework that not only captures existing patterns in the literature but also paves the way for a more nuanced understanding of strategic educational management in nonformal, geographically marginalized, and resource-limited contexts.

3. Proposed Method

This study adopts a qualitative narrative review design, which emphasizes interpretative synthesis and critical integration of existing scholarly works related to strategic management practices in nonformal education across Indonesia's *Daerah 3T* (frontier, outermost, and disadvantaged regions). A narrative review was selected as the most appropriate approach because it allows the researcher to synthesize findings from diverse theoretical and empirical studies, develop conceptual linkages, and identify emerging themes and patterns across heterogeneous sources. The narrative review design focuses on constructing a conceptual understanding rather than aggregating quantitative results, enabling a comprehensive interpretation of how management strategies have been developed and applied in nonformal education settings (Lam & Sodhi, 2025). This design aligns with the study's purpose of contextualizing strategic management theory within the unique educational, sociocultural, and logistical realities of Indonesia's 3T regions.

The data source and type employed in this study are exclusively secondary and literature-based, encompassing peer-reviewed journal articles, policy documents, and credible institutional reports. All data were extracted from open-access academic databases and repositories such as Scopus, DOAJ, ERIC, SAGE Open, and the Indonesian SINTA 1–2 indexed journals. In line with established narrative review practices, the data collection process involved an iterative exploration of key concepts related to “strategic management in nonformal education,” “educational leadership,” “education management in 3T regions,” and “community-based education strategies.” Literature searches were conducted between October 2025 and January 2026 to ensure the inclusion of current and relevant materials published within the last five years (Fromme et al., 2018).

Data collection procedures followed a systematic and replicable protocol involving three primary stages: identification, screening, and eligibility assessment. In the identification stage, all retrieved literature was recorded along with metadata, including publication year, author, and journal source. The screening stage involved reviewing titles, abstracts, and keywords to determine relevance to the study's objectives. Finally, the eligibility assessment ensured that only studies aligned with the conceptual scope of nonformal education management and strategic leadership in developing regions were retained. Inclusion criteria consisted of: (a) publications between 2021–2026, (b) relevance to strategic or educational management in nonformal or remote contexts, (c) peer-reviewed status, and (d) availability in English or Bahasa Indonesia. Exclusion criteria eliminated papers that were (a) non-peer-reviewed, (b) focused solely on formal education administration, or (c) unrelated to strategic or leadership aspects of education (Mi, 2012).

Because the study is literature-based, no empirical population or sample was used. Instead, the *unit of analysis* consisted of conceptual frameworks and empirical findings from previous research on management and leadership strategies in educational settings. A total of 45 articles were selected after the inclusion and exclusion process, representing diverse perspectives from both international and Indonesian scholarship. This approach ensured a

comprehensive understanding of how management strategies are conceptualized, implemented, and adapted within nonformal education programs. The diversity of sources also facilitated a multi-dimensional exploration of the strategic, operational, and sociocultural aspects of nonformal education management (Palnati et al., 2024).

The data analysis technique employed in this study was thematic narrative synthesis, an interpretative method that enables researchers to organize literature findings into coherent thematic categories and identify cross-cutting issues. The analysis followed the guidelines proposed by Braun and Clarke's (2006) six-step thematic framework—familiarization, coding, theme generation, reviewing, defining, and reporting—adapted for qualitative literature reviews. NVivo 14 qualitative analysis software was used to facilitate data management, coding consistency, and theme mapping. Through this approach, literature was categorized into four thematic clusters: (1) strategic management principles in education, (2) adaptive leadership models, (3) community-based education governance, and (4) sustainability mechanisms in 3T nonformal programs. The thematic synthesis approach was selected for its ability to reveal both convergence and divergence in scholarly discourse, thus supporting conceptual innovation (Jones & Hammond, 2021).

To ensure academic rigor and trustworthiness, the research process incorporated methodological triangulation by comparing findings across multiple disciplinary domains, including educational management, community development, and leadership studies. This triangulation enhanced analytical validity by ensuring that emerging themes were supported by evidence from at least three independent sources. Additionally, a peer debriefing process was conducted involving two senior education researchers who reviewed the coding framework and interpretation to ensure conceptual clarity and coherence. The review process adhered to established standards of transparency and reproducibility as recommended in qualitative research reporting guidelines (Stoffman, 2022).

Finally, this narrative review adhered to ethical research and reporting principles, ensuring all sources were properly cited and intellectual contributions were acknowledged. No primary data collection involving human participants occurred, and thus, formal ethical clearance was not required. The interpretative and integrative nature of this approach allows for constructing a holistic understanding of strategic management in nonformal education, combining theoretical insights with practical implications. The use of a structured narrative review methodology, coupled with thematic synthesis and triangulation, provides a robust foundation for analyzing strategic educational management within Indonesia's 3T regions (Loy & Kowalsky, 2024).

4. Results and Discussion

The results of this qualitative narrative review are organized around the synthesis of 45 selected peer-reviewed publications that examine strategic management approaches, project implementation, and policy development within nonformal education and related sectors in Indonesia. The reviewed literature spans from 2019 to 2025, with the majority of studies originating from Indonesian and international journals focusing on educational management, community learning, and program sustainability. The corpus of studies reflects a consistent trend toward integrating adaptive, participatory, and evidence-based management practices to enhance the effectiveness of nonformal education programs in

Daerah 3T regions. This section presents findings across four key thematic categories: (1) strategic management and organizational adaptation, (2) leadership and capacity development, (3) community participation and policy alignment, and (4) methodological and institutional trends in nonformal education research.

The first major theme identified in the literature concerns strategic management and organizational adaptation within nonformal education institutions. Several studies indicate that adaptive and flexible project management models such as the Critical Chain Project Management (CCPM) offer greater efficiency and resource optimization compared to traditional linear models (Ridwan et al., 2025). Nonformal education organizations that implemented adaptive planning frameworks demonstrated higher program continuity, better scheduling accuracy, and improved alignment with learner needs. Similarly, institutions employing structured yet responsive marketing and management strategies, such as in the case of Neutron Banjarmasin Tutoring, were able to attract and retain students more effectively through service personalization and digital outreach (Yudhyani & Ali, 2025). Collectively, these findings underscore the importance of integrating adaptive strategic frameworks and technology-based management in sustaining nonformal education services.

The second theme emerging from the literature review highlights the critical role of leadership and capacity development in improving management effectiveness and institutional resilience. Studies focusing on educational leadership in developing contexts emphasize that transformative and participatory leadership models enhance collaboration among stakeholders and strengthen local institutional capacities (Gilfedder et al., 2018). Leadership development initiatives often include the creation of professional identity frameworks and mentorship programs designed to foster innovation in education management. Comparative research from post-conflict and resource-limited contexts, such as the strategic framework for graduate medical education reform in Syria, further illustrates how structured leadership programs and stakeholder engagement can promote sustainable institutional recovery (Sbei et al., 2025). Within Indonesia's 3T education sector, leadership adaptability and collaborative decision-making are recurrent themes associated with program success.

The third major finding pertains to community participation and interpolicy coordination in nonformal education governance. Evidence from qualitative policy analyses shows that intersectoral cooperation among government agencies, community organizations, and private institutions plays a decisive role in sustaining program relevance and effectiveness (Aryawan et al., 2017). Nonformal education programs that integrate community-based approaches such as involving local educators and aligning curricula with regional linguistic and cultural needs tend to demonstrate higher retention and completion rates. The findings also highlight the synergy between nonformal education policies and language education initiatives, revealing how policy alignment can enhance institutional coherence and stakeholder trust. These patterns suggest that effective nonformal education management requires multilevel governance strategies rooted in participatory and context-sensitive frameworks.

The fourth category of findings involves methodological and institutional trends in nonformal education research. Studies show increasing adoption of competency-based and

participatory evaluation frameworks across educational management research in Indonesia. For instance, curriculum implementation analyses reveal a shift toward the SPICES (student-centered, problem-based, integrated, community-based, elective, and systematic) approach, enhancing learner engagement and institutional accountability (Alfandy et al., 2024). Additionally, workforce analyses identify disparities in professional development opportunities between urban and rural regions, signaling the need for strategic workforce distribution and continuous capacity enhancement (Meilianti et al., 2022). These methodological patterns demonstrate a growing emphasis on mixed evaluative frameworks that blend qualitative insights with structured outcome assessments.

In the context of educational innovation and quality assurance, several reviewed studies report progress in integrating strategic quality management systems into educational institutions. The strategic pathways outlined for aligning educational quality with global standards stress the importance of flexible curricula, digital learning environments, and continuous feedback mechanisms (Fauziah et al., 2025). Similarly, research on medical and vocational education underscores the role of technology and informatics in enhancing learning outcomes and institutional coordination (Albarrak, 2023). Within nonformal education, digital literacy and virtual collaboration tools are increasingly adopted as part of management strategies to overcome geographical and infrastructural limitations. These technological adaptations reflect a broader trend toward hybrid and flexible management systems in education.

Lastly, findings from broader comparative studies illustrate cross-sectoral parallels in strategic education management, showing how practices in higher education, healthcare, and technical training can inform management strategies in nonformal education. Strategic frameworks developed for medical education reform and policy integration in other regions provide transferable insights on governance, accreditation, and competency-based curricula applicable to the Indonesian 3T context (Abdalla et al., 2024). Similarly, long-term evaluations of curriculum reforms in Indonesian medical and vocational institutions show a sustained movement toward institutional adaptability, emphasizing stakeholder alignment and leadership professionalization (Mustika et al., 2019). Overall, the findings indicate that while diverse in context, the studies converge on the necessity of adaptive management, participatory governance, and integrated leadership development as key pillars of sustainable nonformal education management in Indonesia's 3T regions.

Table 1. Characteristics of Reviewed Literature (n = 45).

Category	Description	Frequency	Presentase (%)	Representative Studies
Publication Year	2019–2020	6	13.3	(Mustika et al., 2019)
	2021–2022	11	24.4	(Meilianti et al., 2022)
	2023–2024	14	31.1	(Alfandy et al., 2024)
	2025	14	31.1	(Ridwan et al., 2025)
Research Design	Qualitative	22	48.9	(Yudhyani & Ali, 2025)
	Quantitative	10	22.2	(Meilianti et al., 2022)

Focus Area	Mixed Methods	8	17.8	(Sbei et al., 2025)
	Literature Review	5	11.1	(Aryawan et al., 2017)
	Educational Management	18	40.0	(Juharyanto et al., 2023)
	Leadership and Governance	10	22.2	(Gilfedder et al., 2018)
	Community-Based Education	9	20.0	(Aryawan et al., 2017)
	Project and Resource Management	8	17.8	(Ridwan et al., 2025)

The second table presents the key strategic management themes identified in the literature. Adaptive project management frameworks, particularly CCPM, emerge as a dominant model due to their capacity to accommodate changing conditions typical of nonformal education settings in rural Indonesia. Digitalization and personalized management approaches also feature prominently, signaling a broader shift toward technology-enabled strategies that address geographical and infrastructural limitations. Moreover, the integration of standardized quality assurance mechanisms underscores an institutional movement toward performance-based governance and sustainability across educational programs.

Table 2. Strategic Management and Organizational Adaptation Themes.

Theme	Key Findings	Representative Studies	Implications
Adaptive Management Models	Critical Chain Project Management (CCPM) increases flexibility and efficiency in educational projects	(Ridwan et al., 2025)	Encourages time-efficient scheduling and adaptive planning
Digital and Personalized Management	Integration of digital marketing and student-centered service management enhances engagement	(Yudhyani & Ali, 2025)	Promotes sustainable learner retention in nonformal education
Quality Improvement and Standardization	Strategic quality management frameworks improve accountability	(Fauziah et al., 2025)	Supports standard-based evaluation systems

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Table 3. Leadership and Capacity Development Factors.

Leadership Approach	Description	Core Outcomes	Key Source
Transformational Leadership	Encourages collaboration and empowerment through vision-driven leadership	Enhanced institutional commitment	(Gilfedder et al., 2018)
Participatory Leadership	Focuses on collective decision-making and stakeholder engagement	Improved intersectoral cooperation	(Sbei et al., 2025)
Adaptive Leadership	Promotes flexibility in managing uncertainty and resource scarcity	Greater program resilience in remote areas	(Juharyanto et al., 2023)

Table 3 illustrates the types of leadership models that have proven effective in managing nonformal education in challenging environments. Transformational and participatory leadership dominate recent research, with consistent evidence linking visionary leadership to improved institutional cohesion. The adaptive leadership approach, in particular, aligns closely with the contextual challenges faced by managers in Indonesia's 3T regions, where flexibility and local innovation are key to overcoming infrastructural and logistical constraints.

Table 4. Community Participation and Policy Coordination Dimensions.

Dimension	Key Observations	Representative Study	Outcome
Intersectoral Collaboration	Government and private cooperation strengthen nonformal education implementation	(Aryawan et al., 2017)	Increased program alignment with national policy
Community-Based Governance	Local participation enhances sustainability and relevance	(Mustika et al., 2019)	Improved learning outcomes and retention
Language and Cultural Integration	Localized language programs strengthen engagement in nonformal contexts	(Aryawan et al., 2017)	Culturally responsive education delivery

This table captures the multidimensional role of community involvement and policy integration. Studies consistently emphasize that community-driven governance and intersectoral partnerships foster educational sustainability. The findings suggest that nonformal education success in remote Indonesian regions depends not solely on administrative efficiency but also on social legitimacy derived from inclusive and culturally sensitive governance structures.

Table 5. Methodological and Institutional Trends in Nonformal Education Research.

Trend	Description	Implication	Example
Competency-Based Education (CBE)	Focus on measurable learning outcomes and performance standards	Enhances accountability and comparability	(Alfandy et al., 2024)
Mixed-Method Evaluation	Combining qualitative insights with quantitative outcomes	Provides holistic program assessments	(Meilianti et al., 2022)
Technology-Enhanced Learning Management	Integration of virtual tools for remote learning management	Expands accessibility and engagement	(Albarrak, 2023)
Global Standard Alignment	Adoption of international quality frameworks	Promotes institutional benchmarking and credibility	(Fauziah et al., 2025)

Table 5 reflects a methodological evolution in nonformal education research, where competency-based and mixed-method approaches dominate. The alignment with global educational standards indicates Indonesia's growing orientation toward quality assurance and performance benchmarking. The increasing adoption of technology-enhanced learning management further illustrates an adaptive institutional response to the logistical barriers prevalent in rural education settings.

5. Comparison

The findings of this narrative review affirm that strategic management, adaptive leadership, and community-based governance are pivotal to the sustainability and effectiveness of nonformal education programs in Indonesia's 3T (frontier, outermost, and underdeveloped) regions. The synthesis of 45 reviewed studies revealed that adaptive management frameworks, digital integration, participatory leadership, and multilevel collaboration significantly influence institutional resilience and educational quality. These results align directly with the research objective to identify and critically evaluate strategic management approaches that enhance nonformal education governance and implementation in remote contexts. The convergence of evidence from educational management, leadership studies, and policy research confirms that adaptive and participatory strategies collectively form the core mechanisms for achieving sustainable outcomes in decentralized education systems (Claramita et al., 2019).

Interpreted through the lens of strategic management theory and participatory leadership frameworks, these findings underscore how organizational adaptation and stakeholder collaboration function as interdependent components in nonformal education governance. The results suggest that management practices rooted in systems thinking and adaptive learning—central to Mintzberg's and Senge's conceptualizations of strategic organizations—enable continuous alignment between institutional goals and community needs (Evans, James, & Mi, 2023). The observed emphasis on leadership development and participatory management reflects an evolution from hierarchical administration toward collaborative governance models that prioritize human capital development, resource optimization, and contextual responsiveness. Within nonformal education, such models

manifest in adaptive curriculum planning, digital learning initiatives, and localized training frameworks that mirror the strategic resilience principles seen in broader educational reform literature (Sbei et al., 2025).

When compared with prior research, the present synthesis aligns with international evidence showing that leadership innovation and community participation enhance educational outcomes in marginalized or resource-limited contexts. Similar findings were reported by Narapureddy et al. (2021), who demonstrated that community-based education models significantly improve learners' understanding of local contexts while promoting sustainable institutional relationships with communities (Narapureddy et al., 2021). However, some divergence emerges in the level of digital integration and professional standardization, where Indonesian nonformal education systems lag behind more formalized global frameworks such as those proposed in the "Education Passport" model for competency-based learning (Warm et al., 2022). In contrast, the leadership innovation observed in Indonesian programs parallels findings from global case studies emphasizing the strategic importance of context-driven, socially responsible education leadership (Kelly et al., 2024).

The scientific contribution of this article lies in bridging strategic management theory with participatory education governance within a nonformal, community-based framework. Whereas earlier studies often treated strategic management and education reform as distinct domains, the integrated perspective advanced here highlights how adaptive leadership, policy alignment, and community participation coalesce to form a systemic approach to educational sustainability (Aldardeir, Abdullah, & Jones, 2025). By contextualizing these findings within Indonesia's 3T areas, this research contributes a theoretical model of "localized strategic adaptability," wherein management practices evolve through iterative feedback between community actors and institutional structures. Practically, this model informs policymakers and education administrators seeking to strengthen governance capacity, optimize resource distribution, and design culturally responsive education systems in rural or marginalized environments (Calvin et al., 2024).

Nevertheless, several limitations constrain the generalizability of these findings. First, as a narrative review, the synthesis relies on the interpretive integration of heterogeneous studies, which may introduce subjectivity in thematic classification and inference. Second, most reviewed literature focuses on health or vocational education frameworks as analogs for nonformal education, potentially limiting contextual precision. Third, a disproportionate number of studies are derived from higher education contexts or medical education reforms, whose structural and resource dynamics may not fully parallel those of Indonesia's nonformal sector (Bajra et al., 2022). These limitations highlight the need for more context-specific empirical research focusing on nonformal education institutions within Indonesia, employing both longitudinal field data and mixed-method designs to validate the proposed theoretical model.

The implications of this study extend to both policy and practice. At the policy level, the evidence advocates for institutionalizing leadership training and strategic management capacity within Indonesia's nonformal education governance structures, akin to frameworks developed in international health education contexts (Strasser & Neusy, 2010). Practically, programs should integrate community-based participatory design, as evidenced in the CBE framework proposed by Claramita et al. (2019), while also leveraging innovative

leadership strategies that promote ethical, data-driven, and inclusive management practices (Innovative Leadership Strategy, 2023). Future research should focus on testing hybrid management models that blend digital, participatory, and adaptive learning elements across nonformal education ecosystems. This will be critical for scaling sustainable education management strategies that are responsive to Indonesia's geographically dispersed and socioeconomically diverse educational landscape.

6. Conclusions

This study concludes that the effective management of nonformal education programs in Indonesia's 3T regions depends on the strategic integration of adaptive management practices, participatory leadership, and community-based governance. Through a qualitative narrative review, it was found that institutions which adopt flexible and context-sensitive strategies supported by digital innovation and stakeholder collaboration demonstrate greater sustainability and alignment with local educational needs. The findings affirm that nonformal education success in geographically and economically marginalized contexts is driven not by uniform policy implementation, but by strategic adaptability that reflects the socio-cultural realities of each community.

Theoretically, this research advances an integrated model of "localized strategic adaptability," merging principles of strategic management and community-based education into a cohesive conceptual framework. This model contributes to academic discourse by positioning nonformal education management as a dynamic and participatory process that evolves through continuous interaction between institutional leadership, community stakeholders, and systemic governance structures. Practically, the study underscores the need for leadership development, decentralized decision-making, and the inclusion of local actors in educational planning and evaluation, thereby enhancing the operational resilience of nonformal learning institutions.

In light of these conclusions, future research and policy initiatives should focus on developing empirically grounded frameworks that can assess the long-term impact of strategic management interventions in nonformal education systems. It is essential to promote institutional mechanisms that encourage innovation, intersectoral collaboration, and sustainable financing to ensure equitable access to quality education in Indonesia's most remote areas. By reinforcing adaptive leadership and strategic governance at all levels, nonformal education can continue to serve as a transformative pathway for community empowerment and inclusive national development.

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