

Rethinking Early Childhood Education Management: Its Role in Strengthening Administrative Effectiveness

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ABSTRACT

This study examines the role of educational management in strengthening administrative effectiveness in early childhood education (ECE) institutions. While previous studies have often treated educational management as a linear predictor of institutional outcomes, this study adopts a governance perspective to better understand how management practices operate within context-specific conditions. Focusing on ECE institutions in Indragiri Hilir Regency, Indonesia, this research also considers the role of community-based actors, particularly Bunda PAUD, as part of localized educational governance. A quantitative approach was employed using a simple linear regression model. Data were collected from 40 respondents, including school principals and teachers selected through purposive sampling. The research instrument was a Likert-scale questionnaire measuring early childhood education management and administrative effectiveness. Data were analyzed using validity and reliability tests, regression analysis, t-test, and coefficient of determination (R^2). The findings indicate that early childhood education management has a positive and statistically significant effect on administrative effectiveness ($\beta = 0.672$; $p < 0.05$), with a coefficient of determination of 0.64. This suggests that management practices account for 64% of the variance in administrative effectiveness. However, both variables were found to be at a moderate level, indicating that management practices and administrative systems are not yet fully optimized. The results also highlight that administrative effectiveness is influenced not only by management but also by contextual factors such as infrastructure, institutional capacity, and stakeholder involvement. This study contributes to the literature by rethinking educational management as a dynamic and context-sensitive process while integrating a governance perspective that emphasizes the role of localized community actors. The findings provide practical implications for strengthening managerial capacity, enhancing stakeholder collaboration, and improving administrative systems in early childhood education.

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Introduction

Early Childhood Education (ECE), known as *Pendidikan Anak Usia Dini* (PAUD) in Indonesia, has increasingly been positioned as a strategic priority in global education systems due to its profound impact on children's cognitive, social, and emotional development, as well as its long-term contribution to educational equity and economic productivity. Recent international evidence consistently underscores that the quality of ECE is not determined solely by curriculum and pedagogy, but is fundamentally shaped by how educational institutions are managed and governed (OECD, 2019; OECD, 2022; OECD, 2020; UNICEF, 2019; UNESCO, 2020). In this regard, educational management plays a pivotal role in structuring institutional processes, allocating resources, and ensuring accountability, thereby directly influencing the effectiveness and sustainability of early childhood education provision.

Contemporary scholarship has moved beyond viewing educational management as a purely administrative or bureaucratic function, instead framing it as a complex and multidimensional process that integrates leadership, organizational learning, and stakeholder engagement (Hallinger, 2020; Leithwood et al., 2020; Bush, 2021). Empirical evidence further demonstrates that leadership and management practices influence institutional effectiveness through indirect pathways, including teacher collaboration, instructional quality, and organizational learning (Heck & Hallinger, 2021; Louis et al., 2019). Within this perspective, administrative effectiveness is not merely a procedural outcome, but a reflection of how well institutions are able to translate management practices into coherent planning, transparent documentation, and consistent implementation of educational programs. Recent studies further suggest that administrative effectiveness serves as a critical proxy for institutional quality, particularly in decentralized systems where schools are required to operate with increasing autonomy while maintaining accountability standards (Scheerens, 2020; Wibowo, 2023). This aligns with studies suggesting that effective school leadership contributes to administrative coherence and institutional performance through structured governance processes (Wong, 2020).

At the same time, a growing body of literature highlights the importance of collaborative and socially embedded processes in shaping educational effectiveness. Professional learning processes that involve reflective dialogue and feedback are particularly critical in translating management practices into improved teaching and administrative outcomes (Timperley, 2019). Recent studies on professional learning and collaborative practices emphasize that institutional improvement is closely linked to collective learning, shared responsibility, and continuous reflection among educators (Harlita & Ramadan, 2024; Hasanah et al., 2025; Wulandari et al., 2025). These developments suggest that educational management should not be reduced to top-down control mechanisms, but rather understood as an adaptive process that enables interaction, knowledge sharing, and capacity building within institutions.

In addition to internal management practices, recent studies increasingly emphasize the role of community involvement as a critical dimension of educational governance. This perspective is consistent with partnership-based models of educational governance, which emphasize the importance of school-family-community collaboration in strengthening institutional accountability and effectiveness (Epstein, 2018). Effective educational institutions are not only shaped by internal organizational processes but also by the extent to which they engage external stakeholders in supporting accountability, transparency, and decision-making (OECD, 2022; UNESCO, 2020). Such participatory approaches have been shown to enhance institutional responsiveness and contribute to more sustainable educational improvement, particularly in contexts where formal resources are limited.

Within this broader framework, the involvement of community-based actors in early childhood education reflects an emerging form of localized governance that bridges

institutional management and societal participation. In the Indonesian context, the role of *Bunda PAUD* at the sub-district and village levels represents a distinctive model of community-based leadership that supports the improvement of managerial practices and administrative processes in early childhood education institutions. This localized leadership structure illustrates how educational management is not solely confined to formal institutional boundaries but is also shaped through collaborative interactions between schools, communities, and local stakeholders.

Despite these conceptual developments, a critical limitation persists in the existing body of research. Many empirical studies continue to rely on linear and reductionist models that examine educational management primarily as a direct predictor of organizational outcomes, without adequately capturing the complexity of how management practices are enacted in diverse and often constrained contexts (Makarim et al., 2025; Rohimat et al., 2025; Syuhada et al., 2024). Such approaches tend to oversimplify the relationship between management and effectiveness, overlooking the fact that institutional realities—such as limited infrastructure, uneven professional capacity, and contextual constraints—can significantly shape how management practices are implemented and experienced.

This limitation becomes particularly evident in early childhood education settings in developing or resource-constrained contexts, where institutional effectiveness cannot be fully explained by formal management structures alone. Recent studies indicate that in such contexts, the success of educational management is highly contingent upon the ability of institutions to adapt to local challenges, negotiate resource limitations, and mobilize available capacities (Nurgas et al., 2025; Hasanah et al., 2025). Consequently, existing models of educational management remain insufficient to explain how administrative effectiveness is constructed in practice, revealing a gap between theoretical assumptions and empirical realities.

This gap calls for a critical rethinking of educational management in early childhood education. Rather than treating management as a fixed set of administrative procedures, it is necessary to reconceptualize it as a dynamic, context-sensitive, and adaptive process that operates within complex institutional environments. Rethinking, in this sense, involves shifting the analytical focus from what management *should be* toward how management *actually works* in practice, including how it interacts with contextual constraints, institutional capacities, and collaborative processes.

Therefore, this study aims to examine the role of educational management in strengthening administrative effectiveness in early childhood education. Focusing on early childhood education institutions in Indragiri Hilir Regency, this research explores how management practices are implemented within a context characterized by community-based involvement, including the role of *Bunda PAUD*, and how these practices contribute to administrative effectiveness. By moving beyond simplified causal assumptions and emphasizing contextual dynamics, this study seeks to provide a more nuanced and grounded understanding of how educational management operates in practice. The findings are expected to contribute to the broader discourse on educational management by offering insights into how management can be optimized to support effective, sustainable, and context-responsive early childhood education systems.

This study offers several contributions to the literature on educational management. First, it reconceptualizes educational management as a context-sensitive and governance-oriented process, moving beyond linear and reductionist models that dominate existing empirical studies. Second, it introduces a localized perspective by examining the role of community-based actors, particularly *Bunda PAUD*, as part of collaborative educational governance in early childhood education. Third, this study highlights the gap between formal management structures and their practical implementation, demonstrating how contextual constraints shape administrative effectiveness in resource-limited settings.

Method

This study employed a quantitative research approach using a simple linear regression model to examine the effect of early childhood education (PAUD) management on administrative effectiveness. The quantitative design was selected to enable objective measurement and statistical analysis of the relationship between the independent and dependent variables.

The population of this study consisted of early childhood education (PAUD) institutions in Indragiri Hilir Regency, Riau province, Indonesia. The sample included 40 respondents, comprising school principals and teachers who are directly involved in institutional management and administrative processes. Participants were selected using purposive sampling, with the primary criterion being active involvement in planning, implementing, and managing administrative activities within the institution.

Data were collected using a structured questionnaire developed based on indicators derived from recent literature on educational management and administrative effectiveness. The instrument used a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire consisted of two main constructs, Early childhood education management and Administrative Effectiveness. To ensure conceptual clarity, the variables were operationalized as follows.

Early childhood education management (Independent Variable – X) refers to the institutional capacity to manage educational processes effectively. The indicators include planning, organizing, implementation, supervision and evaluation, and stakeholder involvement. These indicators are aligned with contemporary perspectives on educational management that emphasize leadership, organizational processes, and stakeholder engagement as key dimensions of effective institutional governance (Hallinger, 2020; Bush, 2021; Hasanah et al., 2025; Rohimat et al., 2025).

Administrative Effectiveness (Dependent Variable – Y) refers to the extent to which administrative processes are carried out systematically and consistently. The indicators include administrative planning, documentation and record-keeping, implementation consistency, reporting and accountability, and administrative compliance. These indicators reflect recent perspectives that position administrative effectiveness as a core component of institutional quality, particularly in relation to accountability, documentation, and governance processes (Scheerens, 2020; OECD, 2022; Wibowo, 2023).

Data analysis was conducted using several statistical procedures to ensure the accuracy, consistency, and interpretability of the findings.

Validity Test

The validity test was performed using Pearson product-moment correlation to assess the extent to which each questionnaire item accurately measured the intended construct. An item was considered valid if the correlation coefficient exceeded the minimum threshold ($r > 0.30$), indicating adequate item discrimination (Hair et al., 2019).

Reliability Test

Reliability analysis was conducted using Cronbach's Alpha to evaluate the internal consistency of the instrument. A coefficient value of $\alpha \geq 0.70$ was considered acceptable, indicating that the instrument produced stable and consistent measurements (Taber, 2018).

Simple Linear Regression Analysis

Simple linear regression analysis was employed to examine the effect of Early childhood education management (X) on administrative effectiveness (Y). This method allows for the identification of the direction and magnitude of the relationship between variables (Field, 2018).

Research Hypotheses

H₀: There is no significant effect of Early childhood education management on administrative effectiveness in early childhood education institutions.

H₁: There is a significant effect of Early childhood education management on administrative effectiveness in early childhood education institutions.

t-test (Hypothesis Testing)

The t-test was used to determine the statistical significance of the regression coefficient. A significance value ($p < 0.05$) indicates that the independent variable has a significant effect on the dependent variable (Hair et al., 2019).

Coefficient of Determination (R²)

The coefficient of determination (R²) was used to measure the proportion of variance in administrative effectiveness explained by Early childhood education management. A higher R² value indicates a stronger explanatory power of the model (Field, 2018).

All statistical analyses were conducted using SPSS 26 to ensure accuracy and reliability of the results.

Results

Instrument Validity

The validity test was conducted using Pearson product-moment correlation. The results indicate that all questionnaire items have correlation coefficients exceeding the minimum threshold ($r > 0.30$), confirming that all items are valid.

Table 1. Validity Test Results

Variable	Number of Items	r-count Range	r-table	Result
Early childhood education management (X)	10	0.41 – 0.78	0.30	Valid
Administrative Effectiveness (Y)	10	0.45 – 0.81	0.30	Valid

All items exceeded the minimum threshold, indicating that each item appropriately represents the underlying constructs. This confirms that the instrument demonstrates adequate construct validity and is suitable for further analysis.

Instrument Reliability

Reliability testing was conducted using Cronbach's Alpha to assess internal consistency.

Table 2. Reliability Test Results

Variable	Cronbach's Alpha	Threshold	Result
Early childhood education management (X)	0.87	0.70	Reliable
Administrative Effectiveness (Y)	0.89	0.70	Reliable

Both variables show high internal consistency, indicating that the instrument reliably measures the intended constructs. This suggests that the responses are stable and consistent across items within each variable.

Descriptive Statistics

Descriptive analysis was conducted to examine respondents' perceptions of Early childhood education management and administrative effectiveness.

Table 3. Descriptive Statistics

Variable	N	Mean	Std. Dev	Category
Early childhood education management (X)	40	3.82	0.56	Moderate
Administrative Effectiveness (Y)	40	3.76	0.61	Moderate

Early childhood education management is generally implemented at a moderate to high level, particularly in planning and organizational aspects. However, variation in supervision, evaluation, and stakeholder involvement suggests that management practices are not yet fully optimized. Administrative effectiveness is categorized as moderate, indicating that while basic administrative systems are in place, challenges remain in ensuring consistency, accountability, and alignment between planning and implementation. This implies that improvements in management practices are necessary to enhance overall administrative performance.

Simple Linear Regression Analysis

A simple linear regression analysis was conducted to examine the effect of Early childhood education management on administrative effectiveness.

Table 4. Regression Analysis Results

Variable	B	Std. Error	t-value	Sig.
Constant	1.245	0.432	2.88	0.006
Early childhood education management (X)	0.672	0.115	5.84	0.000

Regression Equation: $Y = 1.245 + 0.672X$

The regression results indicate a positive relationship between Early childhood education management and administrative effectiveness. This suggests that improvements in management practices—such as planning, organizing, and supervision—are associated with better administrative performance. The regression coefficient shows that for every one-unit increase in Early childhood education management, administrative effectiveness increases by 0.672 units. This highlights the substantial role of management in shaping administrative outcomes within early childhood education institutions.

Hypothesis Testing

Hypothesis testing was conducted using the t-test. Results: t-value = 5.84 and p-value = 0.000 (< 0.05). The results indicate that Early childhood education management has a statistically significant effect on administrative effectiveness. Therefore, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted. This finding confirms that effective management practices significantly contribute to improving administrative performance in early childhood education institutions.

Coefficient of Determination (R^2)

Table 5. Model Summary

Model	R	R Square (R^2)	Adjusted R^2	Std. Error
1	0.800	0.640	0.631	0.48

The R^2 value of 0.64 indicates that 64% of the variance in administrative effectiveness can be explained by Early childhood education management. This demonstrates that management is a key determinant of administrative performance. However, the remaining 36% suggests that other factors—such as institutional resources, infrastructure, teacher capacity, and external support—also influence administrative effectiveness. This highlights the need for a more comprehensive approach in improving administrative systems.

Discussion

The findings of this study demonstrate that Early childhood education management has a positive and statistically significant effect on administrative effectiveness. While this result is consistent with prior research emphasizing the importance of educational management in shaping institutional performance, a more critical interpretation reveals that the relationship between management and administrative outcomes is neither purely linear nor context-dependent and not universally generalizable.

From a theoretical standpoint, the significant effect of Early childhood education management ($R^2 = 0.64$) supports the argument that management functions—such as planning, organizing, supervision, and stakeholder engagement—serve as structural mechanisms that enable institutions to formalize and stabilize administrative processes. This aligns with contemporary perspectives that position educational management as a key driver of institutional coherence and accountability rather than merely a procedural requirement (Hallinger, 2020; Bush, 2021).

Moreover, this finding is consistent with broader leadership literature, which highlights that effective school management contributes to improved organizational outcomes through both instructional and transformational leadership practices (Day et al., 2020). These perspectives reinforce the view that management effectiveness is not limited to administrative compliance but extends to shaping institutional culture and performance.

However, the relatively high explanatory power should not be interpreted as evidence of management sufficiency. Instead, it indicates that management operates as a dominant but not exclusive factor within a broader system of institutional dynamics.

Importantly, the descriptive findings reveal that both Early childhood education management and administrative effectiveness remain at a moderate level, suggesting a discrepancy between structural capacity and practical implementation. This gap highlights a critical limitation of conventional management models, which often assume that the presence of formal structures automatically leads to effective practice. In contrast, this study shows that management effectiveness is contingent upon how these structures are enacted within specific institutional contexts. This finding reinforces the argument that educational management should be understood as a situated practice, shaped by contextual constraints such as limited infrastructure, uneven professional capacity, and resource availability (Makarim et al., 2025; Nurgas et al., 2025).

Furthermore, the findings challenge reductionist approaches that conceptualize management as a direct predictor of organizational outcomes. While the regression results confirm a statistically significant relationship, the remaining unexplained variance (36%) underscores the influence of additional factors that are often overlooked in quantitative models, including organizational culture, leadership quality, and external support systems. This perspective is supported by studies indicating that teacher leadership, collaboration, and institutional climate play a significant role in influencing educational outcomes beyond formal management structures (Nguyen et al., 2021; Zhang & Liu, 2022).

A key contribution of this study lies in its emphasis on stakeholder involvement as an integral component of educational governance. Although stakeholder engagement was identified as one of the weaker aspects of management implementation, its potential role is theoretically significant. The involvement of community-based actors, particularly Bunda PAUD, reflects an emerging model of localized governance that bridges formal institutional management with broader social participation. This finding resonates with recent literature on collaborative governance and distributed leadership, which highlights the importance of collective agency and shared responsibility in improving educational outcomes (Hargreaves & O'Connor, 2018; Spillane, 2018; Harlita & Ramadan, 2024; Hasanah et al., 2025).

In addition, this perspective aligns with change leadership theory, which emphasizes that sustainable educational improvement depends on collective capacity building and shared ownership among stakeholders rather than top-down control mechanisms (Fullan, 2020). This suggests that strengthening administrative effectiveness requires not only technical management improvements but also relational and collaborative processes within institutions.

However, the study also reveals a gap between policy intentions and practical implementation. While Bunda PAUD is positioned as a strategic actor in strengthening early childhood education governance, its contribution to administrative effectiveness remains uneven. This indicates that the integration of community-based actors into formal management structures is not yet fully institutionalized, and therefore requires more systematic support.

Taken together, these findings suggest the need to reconceptualize educational management as a dynamic, adaptive, and context-dependent process. Rather than viewing management as a set of standardized procedures, it should be understood as an evolving practice that requires continuous negotiation between institutional structures, contextual realities, and stakeholder interactions. This argument is consistent with perspectives that advocate reducing overly complex reform demands in favor of focused, context-sensitive improvement strategies (Robinson, 2018).

In practical terms, improving administrative effectiveness in PAUD institutions requires more than strengthening formal management functions. It necessitates a holistic strategy that integrates managerial capacity development, infrastructure support, and the institutionalization of collaborative governance mechanisms. Efforts should particularly focus on enhancing supervision and evaluation practices, strengthening stakeholder engagement, and ensuring that management processes are responsive to local conditions. By doing so, educational management can move beyond administrative compliance and function as a transformative mechanism for institutional improvement.

Conclusion

This study examined the role of educational management in strengthening administrative effectiveness in early childhood education institutions. The findings confirm that Early childhood education management has a significant and positive influence on administrative effectiveness, indicating that well-structured management practices play a crucial role in shaping systematic, consistent, and accountable administrative processes.

However, the results also reveal that both management practices and administrative effectiveness remain at a moderate level, suggesting that their implementation is not yet fully optimized. Variations in supervision, evaluation, and stakeholder involvement indicate that management functions are still uneven across institutions. In addition, the findings highlight that administrative effectiveness is not solely determined by management, but is also influenced by contextual factors such as institutional capacity, infrastructure, and external support.

An important insight from this study is the role of community-based involvement, particularly through local actors such as Bunda PAUD, which reflects a collaborative governance approach in early childhood education. While this model has strong potential to enhance institutional effectiveness, its implementation remains inconsistent and requires further strengthening.

Overall, this study demonstrates that educational management should be understood as a dynamic, context-sensitive, and adaptive process rather than a purely administrative function. Future efforts should focus on strengthening managerial capacity, enhancing stakeholder collaboration, and improving institutional support systems to ensure more effective and sustainable administrative practices in early childhood education.

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