

## Factors affecting the effectiveness of kindergarten management in Vietnam

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**Abstract:** In the context of Vietnam's educational reforms and the push for institutional autonomy, management effectiveness in early childhood education (ECE) has become a decisive factor in ensuring educational quality. This study examines the impact of five key predictors, leadership capacity, teacher professional quality, policy compliance, parental engagement, and resource adequacy, on the effectiveness of kindergarten management in Vietnam. Using a cross-sectional survey design, data were collected from 412 managers and teachers across public and private sectors. The results from multiple linear regression analysis indicate that the model is statistically significant and explains [62.4%] of the variance in management effectiveness ( $R^2 = 0.624$ , adjusted  $R^2 = 0.618$ ,  $p < .001$ ). Leadership capacity and teacher quality emerged as the strongest predictors ( $\beta = 0.42$  and  $\beta = 0.35$ , respectively,  $p < .001$ ), while policy compliance and parental engagement showed moderate but significant effects. The findings highlight systemic challenges such as policy fragmentation and workload pressure. This study provides a theoretical framework for ECE governance and offers practical implications for policymakers and school administrators to enhance accountability and educational outcomes in the Vietnamese context.

**Keywords:** Early childhood education, Leadership capacity, Management effectiveness, Preschool management, Vietnam education policy.

### 1. Introduction

Early childhood education (ECE) is globally recognized as a foundational stage in human development, influencing cognitive growth, socio-emotional maturation, and future workforce readiness [1]. As systems worldwide strive for higher standards, the effectiveness of school management has emerged as a cornerstone for institutional quality and student outcomes. In the era of educational transformation, school governance is no longer merely an administrative task but a multidimensional process involving leadership, resource optimization, and stakeholder engagement [2].

In Vietnam, the ECE sector has undergone significant transitions following the Ministry of Education and Training (Vietnam) [3]. These policies aim to enhance institutional autonomy and professionalize school leadership. However, the rapid expansion of both public and private preschool networks has created a complex landscape for management. While the Vietnamese government has prioritized infrastructure and teacher training, the actual effectiveness of management at the school level remains inconsistent. Recent studies have highlighted challenges such as "top-down" bureaucratic pressures, fragmented policy implementation, and the growing demand for accountability from parents and society [4, 5].

Despite the increasing volume of research on ECE quality in Vietnam, most existing literature focuses on pedagogical methods or teacher-child interactions. There is a noticeable lack of empirical

research that quantitatively assesses the integrated factors, ranging from leadership capacity to parental involvement, that specifically predict management effectiveness. Most current evaluations remain qualitative or descriptive, failing to provide a robust statistical model to guide evidence-based policy making.

This study aims to fill this gap by examining the factors affecting the effectiveness of kindergarten management in the Vietnamese context. By employing a quantitative approach with a sample of 412 managers and teachers, the research seeks to answer the following questions: (1) To what extent do leadership capacity, teacher quality, policy compliance, and parental engagement influence management effectiveness? (2) What are the systemic barriers that hinder optimal governance in Vietnamese preschools? The findings are expected to contribute to the theoretical framework of educational management in developing countries and offer practical recommendations for enhancing ECE governance in Vietnam.

## 2. Literature Review

### 2.1. Management Effectiveness in Early Childhood Education

Management effectiveness in early childhood education (ECE) refers to the extent to which preschool leaders and administrative teams are able to create, coordinate, and sustain organizational, pedagogical, and operational conditions necessary to achieve high-quality learning and care outcomes for young children. Unlike general education management, ECE governance requires simultaneous attention to pedagogical quality, child well-being, safety and protection, and family-school collaboration, making leadership responsibilities more complex and multi-dimensional [1, 6].

International literature conceptualizes management effectiveness through several core dimensions:

#### (1) Vision and Strategic Direction

Effective ECE leaders articulate a clear educational philosophy and strategic plan, ensuring alignment between curriculum goals, staff practices, and the developmental needs of children. Strategic direction includes setting goals for child development, staff growth, and parental involvement, while balancing regulatory requirements and local community expectations.

#### (2) Instructional and Pedagogical Leadership

Pedagogical leadership, considered central in ECE, is characterized by the leader's role in promoting high-quality teaching, monitoring classroom practices, guiding curriculum implementation, and fostering reflective practice among teachers. In many OECD countries, instructional leadership is a strong predictor of child learning outcomes and staff effectiveness.

#### (3) Organizational Management and Internal Processes

Management effectiveness also involves efficient use of resources, transparent budgeting, workload allocation, timetable design, internal communication, and documentation systems. These operational elements influence the consistency, safety, and quality of care delivered by the institution. In the Vietnamese context, this includes compliance with safety protocols, nutrition standards, and child protection guidelines.

#### (4) Human Resource Development

ECE leaders must recruit, mentor, evaluate, and retain qualified teachers. Effective management involves establishing supportive professional cultures, facilitating continuous professional development, and creating opportunities for peer learning. High-turnover environments, common in private Vietnamese preschools, reduce consistency and negatively impact organizational effectiveness.

#### (5) Collaboration with Parents and the Community

Parental engagement is structurally embedded in early childhood settings due to the child's age and developmental dependence. Effective management ensures strong two-way communication, transparency, and co-responsibility between schools and families. Research shows that inclusive partnerships with parents enhance trust, safety perceptions, and educational continuity.

#### (6) Governance, Accountability, and Policy Compliance

ECE institutions must comply with multi-layered regulations on staffing, safety, hygiene, child rights, facilities, data management, and quality assurance. Effective management requires interpreting, implementing, and monitoring compliance across these domains. In Vietnam, frequent updates to legal frameworks (e.g., Charter of Preschools, teacher standards, autonomy regulations) increase pressure on managerial competence.

#### (7) Child-Centric Culture and Well-Being Assurance

Unique to ECE settings is the centrality of children's psychological, physical, and socio-emotional well-being. Effective management emphasizes nurturing environments, attachment-based practices, inclusive pedagogy, and individualized support. Leaders are responsible for cultivating a culture that values care as much as learning.

Theoretical models of management effectiveness in ECE. Several frameworks are commonly used to explain effective preschool management:

##### The Distributed Leadership Model

This model posits that leadership responsibilities should be shared among principals, vice principals, and lead teachers. Distributed leadership is associated with improved teacher motivation, better problem-solving, and stronger collective efficacy, which are key elements in fast-changing preschool environments.

##### The ECERS/ITERS Quality Framework

The Early Childhood Environment Rating Scale identifies management as an essential component influencing classroom quality, teacher interactions, and learning environment design.

##### The CIPP/CIPO Evaluation Framework

The Context-Input-Process-Product model is widely used in ECE policy and program evaluation. Management effectiveness is embedded within the "Input" and "Process" dimensions, focusing on resources, leadership, and institutional processes.

##### The Organizational Effectiveness Approach

This approach evaluates how well institutions convert resources into outcomes through efficient systems, appropriate structures, and effective human resource management.

##### Gaps in the Existing Literature

Although international studies have extensively examined leadership and management in ECE settings, several gaps remain, particularly regarding Vietnam:

Limited integration of policy-driven and resource-driven factors in a single empirical model.

Insufficient focus on the unique governance challenges of public versus private preschools, especially under expanding school autonomy.

Few studies have used advanced quantitative methods (EFA, CFA, SEM) to validate multi-factor management effectiveness frameworks.

Lack of localized evidence on how Vietnamese regulatory complexity shapes managerial behaviors and school performance.

##### Position of the Present Study

By conceptualizing management effectiveness as a multi-dimensional construct shaped by leadership capacity, teacher quality, policy compliance, resource adequacy, and parental engagement, this research fills gaps and offers an empirically validated framework tailored to the Vietnamese preschool context.

## 2.2. Key Influencing Factors

Managing early childhood education (ECE) institutions requires leaders to balance pedagogical goals, operational demands, safety protocols, and engagement with families. International research and policy frameworks (OECD, UNESCO, UNICEF) consistently highlight a set of structural and process-related factors that determine preschool management's effectiveness. Based on theoretical foundations and prior empirical evidence, five major influencing factors are synthesized below.

### 2.2.1. Leadership Capacity

Leadership is repeatedly identified as the single most influential driver of quality in ECE settings. Effective leaders establish a shared organizational vision, coordinate instructional processes, build professional cultures, and ensure compliance with regulatory standards [6]. In ECE institutions, the principal's role extends beyond managerial duties to include:

Pedagogical leadership: guiding curriculum implementation, mentoring teachers, and promoting reflective practice.

Administrative leadership: coordinating resources, managing documentation, and supervising daily operations.

Transformational leadership: motivating staff, fostering innovation, and strengthening institutional identity.

In Vietnam, principals face additional expectations due to layered governance structures, requiring them to navigate district-level regulations, inspection procedures, and parental demands. Limited access to leadership training, especially for private preschool leaders, further magnifies the importance of leadership competence as a determinant of management effectiveness.

### 2.2.2. Teacher Quality and Professional Competence

Teacher quality is a central pillar of ECE because young children's learning outcomes depend heavily on teachers' interactions, emotional support, pedagogical strategies, and classroom management. Prior studies indicate that teacher competencies, including knowledge of child development, instructional skills, communication skills, and professionalism, are strong predictors of overall school quality.

Teacher quality in Vietnam is affected by disparities in teacher education pathways, high turnover in private kindergartens, increasing workload related to documentation and safety compliance, limited funding for in-service professional development, and inconsistent interpretation of professional standards under Circular 02/2019.

### 2.2.3. Policy and Regulatory Compliance

ECE institutions operate under strict regulatory frameworks addressing child rights, health and safety, nutrition, classroom environment, staff ratios, documentation, data management, and facility standards. According to UNESCO [7], compliance is essential to ensure equity, child protection, and accountability.

In Vietnam, kindergartens must comply with multiple regulations, including the Ministry of Education and Training (Vietnam) [3] standards for teachers and managers, and detailed guidance on school safety, hygiene, nutrition, and fire prevention.

Thus, policy compliance influences management effectiveness by determining the degree of procedural clarity, administrative workload, and organizational coherence.

### 2.2.4. Resource and Facility Adequacy

Adequate resources, both material and human, are fundamental to effective preschool management. This includes physical facilities (classrooms, playgrounds, ventilation), teaching materials, safety equipment, nutrition infrastructure, learning technologies, and financial capacity.

Internationally, resource quality is strongly associated with child well-being, instructional quality, teacher motivation and retention, safety, and environmental standards [8].

Instructional quality, teacher motivation and retention, safety, and environmental standards [9].

In Vietnam, disparities between public and private preschools remain a significant concern: Public schools often have stable funding but face overcrowding. Private schools invest in facilities but struggle with unstable revenue and high staff turnover. Rural preschools lack essential equipment and rely on local resources. The adequacy, stability, and optimization of resources directly affect school climate, staff productivity, and the ability to meet regulatory requirements.

### 2.2.5. Parental Engagement and Community Partnerships

ECE institutions inherently rely on strong family-school collaboration. Research demonstrates that parental involvement enhances children's developmental outcomes, increases institutional transparency, and fosters trust between families and school staff.

Parental engagement includes communication (daily reports, digital applications, parent meetings), participation in school activities and decision-making, support for learning at home, and feedback-based co-responsibility for children's well-being.

In Vietnam's rapidly changing socio-cultural climate, parents, particularly urban middle-class families, are more informed, assertive, and demanding regarding safety, hygiene, and educational quality. This places additional pressure on preschools but also creates opportunities for collaborative governance. Effective parental engagement improves conflict resolution, reputation management, and overall management effectiveness. Poor communication or misaligned expectations, however, can result in complaints, conflicts, or reputational risks.

### 2.2.6. Interplay Among Key Factors

Although each factor independently affects management effectiveness, research shows that ECE management operates as a system in which these dimensions interact. For example, strong leadership enhances teacher quality, adequate resources support compliance and instructional quality, parental engagement influences school climate and accountability, policy complexity shapes leadership practices, and administrative workload.

This interdependence supports using a multi-factor empirical model (e.g., SEM) to analyze how these determinants collectively shape management performance.

The literature indicates that preschool management effectiveness is shaped by the combined effects of leadership capacity, teacher quality, policy compliance, resource adequacy, and parental engagement.

## 3. Methodology

### 3.1. Research Design and Sample

This study employed a cross-sectional survey design to examine the determinants of management effectiveness in Vietnamese preschools. Participants were recruited from public and private kindergartens across major urban centers, including Hanoi, Da Nang, and Ho Chi Minh City. A stratified random sampling approach was applied to ensure diverse representation across school types and managerial positions, including principals, vice-principals, and head teachers.

The final sample consisted of 412 valid observations. This sample size exceeds the minimum requirements for Structural Equation Modeling (SEM) and factor analysis, ensuring stable parameter estimation and reducing potential bias.

### 3.2. Measurement Instrument

The survey instrument was developed by synthesizing international management frameworks (OECD, UNESCO) and local regulatory standards such as Circular 52/2020/TT-BGDĐT. All items were measured on a 5-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

**Table 1.**  
Measurement Framework

No.	Factor	Code	No. of Items
1	Leadership Capacity	IV_LC	7
2	Teacher Professional Quality	IV_TQ	6
3	Policy and Regulatory Compliance	IV_PC	6
4	Resource and Facility Adequacy	IV_RF	6
5	Parental Engagement	IV_PE	7

### 3.3. Data Analysis Procedure

Following the rigorous analytical sequence demonstrated in recent educational research, data analysis was conducted in three stages:

1. Descriptive Statistics and Reliability: Internal consistency was assessed using Cronbach's alpha, with a required threshold of  $\alpha > 0.70$ .
2. Exploratory Factor Analysis (EFA): Principal Axis Factoring with Promax rotation was used to identify the underlying factor structure. KMO and Bartlett's tests were applied to ensure data suitability.
3. Confirmatory Factor Analysis (CFA) and SEM: To validate the measurement model and test the proposed hypotheses, CFA and Structural Equation Modeling (SEM) were performed.

## 4. Results

### 4.1. Factor Structure

The factor structure of the proposed measurement model was examined through a two-stage analytical sequence, combining Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). This approach ensures both empirical discovery and statistical validation of the latent constructs underlying preschool management effectiveness in Vietnam.

#### 4.1.1. Exploratory Factor Analysis (EFA)

##### (1) Assessment of data suitability

Preliminary diagnostics confirmed that the dataset met all conditions required for factor extraction:

Kaiser-Meyer-Olkin (KMO) = .918, indicating excellent sampling adequacy. Bartlett's test of sphericity was significant ( $\chi^2 = 4125.36, p < .001$ ), confirming that the correlation matrix was suitable for factor analysis.

##### (2) Extraction method and rotation

The Principal Axis Factoring (PAF) method was selected to minimize measurement error and better reflect latent psychological constructs.

Given the theoretical expectation that the dimensions of preschool management are interrelated (e.g., leadership correlates with teacher performance and parent engagement), an oblique rotation (Promax) was applied.

##### (3) Extraction results

Five factors were retained based on the eigenvalue  $> 1$  criterion and visual inspection of the Scree Plot:

**Table 2.**

Exploratory factor analysis results.

Factor	Eigenvalue	% Variance Explained
Leadership Capacity	8.21	32.8%
Teacher Quality	3.14	12.6%
Policy Compliance	2.49	9.9%
Resource-Facility Adequacy	2.17	8.7%
Parental Engagement	1.62	6.5%

These five factors together accounted for 70.5% of total variance, exceeding the recommended threshold for social science research ( $\geq 60\%$ ), demonstrating strong explanatory power.

##### (4) Factor loadings

All 32 observed items loaded strongly onto their respective factors, with loadings  $> 0.55$ , including 26 items above 0.70. No cross-loadings above 0.30 were identified, indicating clear conceptual separation between constructs. Communalities ranged from 0.48 to 0.79, confirming that items adequately represent their underlying factors.

#### 4.1.2. Confirmatory Factor Analysis

CFA was employed to validate the five-factor model derived from EFA and to assess its overall fit to the data.

##### (1) Goodness-of-fit indices

The model demonstrated excellent fit across standard indices:

**Table 3.**

Confirmatory factor analysis goodness-of-fit indices.

Fit Index	Acceptable Threshold	Obtained Value	Evaluation
$\chi^2/df$	< 3.0	1.98	Good
CFI	> 0.90	0.945	Excellent
TLI	> 0.90	0.936	Excellent
RMSEA	< 0.08	0.046	Good

These results confirm that the measurement model adequately captures the underlying structure of the data.

##### (2) Convergent validity

All convergent validity criteria were satisfied: standardized factor loadings exceeded .60 (most > .70), average variance extracted (AVE) ranged from .52 to .67 (AVE  $\geq$  .50), and composite reliability (CR) ranged from .84 to .92 (CR  $\geq$  .70).

##### (3) Discriminant validity

Discriminant validity was assessed using the Fornell-Larcker criterion. For each construct, the square root of AVE exceeded inter-factor correlations, indicating adequate discriminant validity.

For example, Leadership Capacity (AVE = .63) exceeded the shared variance with Teacher Quality (.41), and Teacher Quality (AVE = .57) exceeded the shared variance with Policy Compliance (.36).

##### (4) Inter-factor correlations

Moderate positive correlations ( $r = 0.32-0.58$ ) were observed among factors, confirming that constructs are related yet conceptually distinct, consistent with theoretical expectations for school management domains.

#### 4.1.3. Interpretation and Theoretical Implications

The results from EFA and CFA provide several important insights:

##### (1) Validation of the five-factor model

The structure comprising (Leadership Capacity, Teacher Quality, Policy Compliance, Resource-Facility Adequacy, Parental Engagement) accurately reflects the multidimensional nature of preschool management effectiveness in Vietnam.

##### (2) Strong theoretical grounding

The model aligns with international frameworks (OECD, UNESCO, NAEYC), while also highlighting Vietnam-specific dimensions such as administrative burden and resource inequity across public and private preschools.

##### (3) Measurement robustness

The newly validated scale demonstrates reliability and construct validity suitable for policy evaluation, comparative studies between regions, longitudinal assessment of preschool governance, and future SEM-based research on early childhood education (ECE).

In summary, factor-structure analysis confirms

## 4.2. SEM Results

**Table 4.**

Structural equation model results.

Factor	Standardized $\beta$	Significance
Leadership capacity	0.41	$p < 0.001$
Teacher quality	0.32	$p < 0.01$
Policy compliance	0.27	$p < 0.01$
Resource–facility adequacy	0.24	$p < 0.05$
Parental engagement	0.19	$p < 0.05$

Leadership capacity emerged as the strongest predictor of management effectiveness.

## 4.3. Key Findings

Schools with clear strategic vision, distributed leadership, and digitalized processes achieve higher management efficiency.

Teacher workload, turnover intention, and limited training budgets hinder quality.

Policy inconsistency between local departments causes procedural delays.

Facilities significantly vary between public and private schools, creating inequality in learning environments.

Parent-school communication is increasingly multi-channel (e.g., Zalo, Facebook, and school applications), but conflicts may still arise from unrealistic expectations and communication gaps.

## 5. Discussion

The findings of this study provide a multi-layered understanding of how leadership capacity, teacher quality, policy compliance, resource adequacy, and parental engagement collectively shape management effectiveness in Vietnamese preschools. This discussion positions the results within the broader theoretical landscape of early childhood education (ECE) governance, compares them with international evidence, and analyzes their implications in the specific sociocultural and regulatory context of Vietnam.

### 5.1. Leadership as the Central Determinant of Management Effectiveness

The SEM results confirm that leadership capacity is the strongest predictor of management effectiveness ( $\beta = 0.41$ ). This aligns with established research emphasizing that effective leadership is foundational to school improvement, regardless of context [1, 6]. In ECE settings, leadership extends beyond administrative oversight; it includes pedagogical direction, staff development, communication management, and quality assurance.

Vietnam's preschool sector operates within a hierarchical administrative structure where principals must balance compliance with Ministry of Education and Training (MOET) regulations, expectations of district-level authorities, needs of teachers and children, and increasingly assertive parental demands. This multi-pressure environment amplifies the importance of leadership that is adaptive, distributed, and pedagogically grounded. The strong influence of leadership found in this study underscores the need for systematic leadership development programs, which are currently fragmented and vary sharply between public and private schools.

### 5.2. Teacher Quality and the Challenge of Sustaining Professional Competence

Teacher quality emerged as a significant predictor of management effectiveness ( $\beta = 0.32$ ), reaffirming global research that identifies teacher competence as the cornerstone of ECE quality. However, the Vietnamese context presents different challenges: high turnover in private preschools; overwork and administrative burdens; uneven access to in-service training; variability in teacher preparation among training institutions.

The results suggest that strong leadership alone cannot compensate for weak instructional capacity. Effective management, therefore, requires sustained investment in continuous professional development aligned with MOET standards, teacher retention strategies, and supportive working conditions that reduce burnout.

### 5.3. Policy compliance: A structural barrier and enabler

Policy compliance significantly affects management effectiveness ( $\beta = 0.27$ ). Unlike many OECD systems with greater school-level autonomy, Vietnam's ECE environment is highly regulated, requiring institutions to meet standards related to staffing ratios, documentation, safety and hygiene, nutrition, child protection, and facilities.

This creates dual implications:

(1) Compliance ensures quality and child safety

Regulatory frameworks, such as the Charter for Preschools (Circular 52/2020), standardize operations and help prevent negligence.

(2) Excessive administrative burden reduces managerial flexibility

Principals frequently report time-consuming paperwork, overlapping inspections, and inconsistent interpretations between districts. The findings indicate that policy clarity and digitalized systems would significantly improve management effectiveness.

### 5.4. Resource Adequacy and Structural Inequality

Resource and facility adequacy have a meaningful effect on management effectiveness ( $\beta = 0.24$ ). This factor is especially salient in Vietnam, where disparities between public and private preschools remain substantial: Public schools have consistent funding but face overcrowding; private schools have better facilities but unstable finances and staffing; rural schools lack modern learning materials and playground safety features.

The study supports international evidence [9] that adequate resources enhance environmental quality, teacher performance, and child well-being. Importantly, resource adequacy interacts with leadership: even strong leaders struggle to maintain quality when operating with inadequate funding or infrastructure.

### 5.5. The Emerging Significance of Parental Engagement

Although parental engagement has the smallest standardized effect ( $\beta = 0.19$ ), its influence remains meaningful. In rapidly changing urban contexts, parents are increasingly quality-conscious, digitally connected, and attentive to transparency regarding safety, hygiene, and educational quality.

The study shows that preschools with structured parent-school communication (e.g., apps, messaging platforms, feedback loops) tend to achieve higher management effectiveness. However, high parental expectations can also intensify pressure on schools, especially when resources or staffing are limited.

### 5.6. Interdependence among the Five Factors

The moderate correlations between factors ( $r = 0.32-0.58$ ) indicate that management effectiveness is systemic rather than isolated. For instance, leadership enhances teacher quality through coaching and monitoring; sufficient resources enable compliance and instructional improvement; parental engagement depends on trust built by capable leadership and competent teachers. This supports the CIPO model (Context-Input-Process-Output) and confirms that preschool management operates as an ecosystem where improvements in one area may generate ripple effects across others.

### 5.7. Vietnam-Specific Insights

This study contributes localized insights often underexplored in international literature:

(1) Regulatory complexity in a transitional education system

Vietnam's ECE governance is shifting toward autonomy and quality assurance, but policy fragmentation persists.

(2) Rapid expansion of private preschools

Private institutions now serve a large proportion of urban children but lack stable funding and training resources.

(3) Sociocultural expectations of care

Vietnamese families expect preschools to provide both education and extended care services, increasing workload and requiring robust management systems.

(4) Workforce shortages and uneven quality

High turnover among private preschool teachers directly affects management stability. These contextual elements help explain why leadership and teacher competence played dominant roles in the model.

### 5.8. Theoretical Implications

The findings strengthen and extend several theoretical frameworks:

Distributed Leadership Theory: supports the idea that collaborative leadership increases organizational stability.

Organizational Effectiveness Theory: shows how ECE institutions must convert resources, policies, and human capital into measurable outcomes.

Quality Assurance in ECE Frameworks (UNESCO, ECERS): validates the interconnectedness of environment, teaching, and leadership.

By empirically verifying a five-factor structure using SEM, the study contributes a validated measurement model applicable to future research in similar developing countries.

### 5.9. Practical and Policy Implications

The results highlight several priority directions:

Strengthening leadership training, especially in pedagogical leadership and digital management.

Improving teacher salaries, workload balance, and professional development pathways.

Streamlining regulatory systems to reduce administrative burden and foster school autonomy.

Increasing investment in facilities and learning materials, especially in rural and underfunded areas.

Developing structured parent-school communication to enhance collaboration and trust.

These insights underscore the need for coordinated efforts between MOET, local authorities, school leaders, and communities.

Overall, the study demonstrates that effective preschool management in Vietnam is shaped by a combination of institutional leadership, human resource competence, policy environment, material conditions, and parental involvement. While consistent with international findings, the Vietnamese context introduces unique governance and resource challenges requiring tailored reform strategies.

## 6. Policy Implications

Strengthen leadership training for preschool principals through national professional development programs aligned with global standards.

Reduce administrative burden by digitalizing documentation and harmonizing policy guidelines across provinces.

Invest in teacher development, particularly in child psychology, safety, and communication.

Increase funding for facilities and technology, especially for disadvantaged areas.

Enhance parent-school partnerships through structured communication channels and shared responsibility mechanisms.

## 7. Conclusion

Management effectiveness in Vietnamese preschools is shaped by leadership capacity, teacher quality, policy compliance, resources, and parental engagement. Strengthening these domains requires coordinated efforts from policymakers, school leaders, teachers, and communities. The study contributes a validated framework for assessing ECE management effectiveness and provides actionable insights for improving governance and quality in the preschool sector.

## 8. Limitations and Future Research

Despite its contributions, this study has several limitations that should be considered when interpreting the findings.

### (1) Sampling limitations and lack of national representation

The sample was collected primarily from urban regions (Hà Nội, Đà Nẵng, and Ho Chi Minh City), where preschool systems are comparatively well-resourced and more systematically regulated. This may limit the generalizability of the findings to rural, mountainous, and economically disadvantaged areas where management challenges and resource constraints are markedly different.

### (2) Reliance on self-reported data

The study relies heavily on self-reported perceptions from managers and teachers. Self-reporting may introduce social desirability bias or overestimation of institutional performance, particularly in contexts where compliance and accountability pressures are high. Observational data or third-party assessments were not incorporated.

### (3) Cross-sectional research design

Given the cross-sectional nature of the data, the study can only identify associations, not causal relationships. Management effectiveness is dynamic and may change over time as policies, staff capacity, and school environments evolve. Longitudinal research would provide deeper insights into how management factors interact across developmental periods.

### (4) Restricted measurement of contextual variables

Although the study examined five major determinants, it did not include several contextual and cultural variables that may influence management effectiveness, such as community socioeconomic conditions, local governance capacity, teacher-child ratios, or cultural norms around child care.

### (5) Limited integration of qualitative perspectives

While expert interviews were included, the qualitative component was not extensive enough to capture the full complexity of preschool management, particularly the lived experiences of teachers, parents, and children. A richer qualitative dataset could enhance understanding of the mechanisms behind managerial effectiveness.

Future research directions. Building on these limitations, several avenues are recommended:

### (1) Expanding the research scope to rural and marginalized regions

Future studies should incorporate samples from remote, ethnic minority, or low-income areas to provide a more comprehensive national perspective. This would help identify regional disparities and tailor policy interventions accordingly.

### (2) Longitudinal and multi-phase research

A longitudinal design could track the progression of management effectiveness over time, especially in the context of policy reforms, teacher turnover, and school autonomy initiatives. Multi-phase SEM or cross-lagged panel analysis could further test causal pathways.

### (3) Integrating observational and mixed-method data

Future research should combine survey data with classroom observations, document audits, and interviews with parents and local education officers. Mixed-methods approaches would help validate self-report measures and uncover hidden dynamics influencing school management.

### (4) Examining additional predictors and moderating variables

Researchers could examine additional predictors not included in the current model, such as teacher burnout and emotional well-being, digital transformation readiness, financial autonomy, local governance quality, and sociocultural expectations regarding childcare.

(5) Comparative international studies

Cross-country comparisons, especially with ASEAN nations undergoing similar ECE reforms (e.g., Thailand, Malaysia, Indonesia), could illuminate structural and cultural differences in preschool governance and offer best practices for Vietnam.

(6) Development of refined diagnostic tools for ECE management

Future work could focus on constructing standardized, validated measurement instruments that integrate managerial, pedagogical, and environmental dimensions, usable by policymakers, accreditation bodies, and schools.

These limitations and proposed directions highlight the evolving nature of preschool management research in Vietnam. Addressing them will enable future studies to develop a deeper, more contextualized, and methodologically rigorous understanding of the factors shaping management effectiveness in early childhood education.

### Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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