**Celebes Journal of Elementary Education**
Volume 4, Issue 1, June 2026 pp. 165-173
Open Access: https://ojs.unsulbar.ac.id/index.php/cjee/index

# Evaluating the Effectiveness of the KP4 Model for School Governance Quality Improvement: The Role of School Management and Community Participation in 3T Regions

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***Article Info***

***Keywords:***
*Participative Leadership, Collaborative Planning, School Governance, Community Participation, 3T Regions*

**ABSTRACT**

*This study examines the effectiveness of the KP4 model comprising participative leadership, collaborative planning, inclusive organization, and community based monitoring and evaluation in improving school governance in a 3T (underdeveloped, frontier, and outermost) context. Employing a mixed methods approach Quantitative data were analyzed using descriptive statistics, followed by qualitative analysis to explain the statistical trends. Integration was conducted through connecting and merging procedures, where interview findings were used to interpret and validate quantitative results, the study integrates quantitative data from 30 respondents with qualitative insights from in depth interviews involving eight key informants, including school leaders, teachers, administrative staff, and community representatives. Quantitative findings reveal an overall mean score of 3.957, indicating that the implementation of the KP4 model is effective and approaches a "very good" level. The strongest dimensions are collaborative planning and participative leadership, which significantly enhance stakeholder engagement and organizational coherence. Qualitative findings further confirm that the model fosters shared responsibility, strengthens school–community collaboration, and promotes a transparent and inclusive organizational culture. However, the monitoring and evaluation dimension remains relatively underdeveloped, particularly in terms of data-driven and technology-supported practices. The study contributes to the literature by proposing an integrative governance model that aligns leadership, organizational processes, and community participation, particularly in resource constrained educational settings. The findings suggest that the KP4 model can serve as a scalable framework for improving school quality, although further development of digital based evaluation systems is necessary to ensure sustainability.*

***Article History***

*Received: 20-01-2026*
*Revised: 22-04-2026*
*Accepted: 05-05-2026*
*Published: 08-06-2026*

**DOI:** ***https://doi.org/10.31605/cjee.v4i1.6367***

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## 1. INTRODUCTION

Educational development in disadvantaged regions remains a persistent global challenge, particularly in areas characterized as frontier, outermost, and underdeveloped (3T). These regions often experience substantial disparities in educational quality compared to urban settings, driven by unequal access to resources, limited teacher capacity, and weak institutional governance. Reports from the Organisation for Economic Cooperation and Development highlight that systemic inequities in school management and learning conditions significantly hinder educational outcomes in marginalized contexts (OECD, 2023). Similarly, the World Bank emphasizes that improving school-level governance is a critical lever for enhancing learning outcomes in developing countries (World Bank, 2018).

One of the most widely adopted reforms to address these challenges is school-based management (SBM), which decentralizes decision-making authority to the school level. SBM is designed to enhance efficiency, accountability, and responsiveness to local needs by empowering school leaders and stakeholders (Wohlstetter & Odden, 1992). However, empirical evidence suggests that the effectiveness of SBM is highly contingent upon the capacity of school leadership and the extent of stakeholder engagement. In many disadvantaged contexts, including 3T areas, SBM implementation often falls short due to limited managerial competence and weak community participation (Arar & Nasra, 2020). This indicates that decentralization alone is insufficient without strengthening collaborative governance structures within schools.

In this regard, leadership emerges as a central determinant of school effectiveness. A substantial body of research has consistently demonstrated that school leadership significantly influences organizational performance, teacher commitment, and student outcomes (Hallinger, 2011b ; Robinson et al., 2008). More specifically, participative and collaborative leadership approaches are increasingly recognized as essential for fostering inclusive and adaptive school environments. According to Kenneth Leithwood, Alma Harris, and David Hopkinss (2020), successful school leadership is characterized by shared decision-making, capacity building, and a strong focus on collective goals. Such leadership practices not only enhance internal organizational capacity but also strengthen trust and collaboration among stakeholders.

Furthermore, participative leadership contributes to the development of professional learning communities and organizational learning capacity. Marks & Louis (1999) argue that teacher empowerment and shared governance structures are critical for sustaining school improvement. In line with this, Sun & Leithwood (2015) demonstrate that leadership practices that emphasize direction-setting and stakeholder involvement significantly improve school performance. These findings underscore the importance of integrating leadership practices with broader governance mechanisms that actively involve teachers, parents, and the community. The quality of schools in rural or remote areas is still strongly influenced by the effectiveness of school leadership and the academic supervision of principals (Hasanah et al., 2025).

Community participation, in particular, plays a pivotal role in strengthening school accountability and contextual relevance, especially in disadvantaged areas. Schools that actively engage communities are more likely to mobilize local resources, foster social accountability, and implement context-sensitive innovations. Research indicates that community involvement enhances transparency and

reinforces shared responsibility for educational outcomes (Arar & Nasra, 2020). In rural and marginalized contexts, such as 3T areas, community engagement is not merely complementary but foundational to sustainable school improvement.

Despite the growing recognition of the importance of leadership and community participation, existing studies have largely examined these factors in isolation. There remains a lack of integrative models that systematically combine participative leadership, collaborative planning, inclusive organization, and evaluative mechanisms within a unified management framework. This gap is particularly evident in the context of disadvantaged regions, where complex socio-cultural and structural challenges demand holistic and context-sensitive approaches.

To address this gap, this study proposes the KP4 model, which integrates four key dimensions: participative leadership, collaborative planning, inclusive organization, and monitoring and evaluation. The KP4 model is grounded in principles of total quality management in education, which emphasize continuous improvement, stakeholder involvement, and systemic coherence (Sallis, 2012). By embedding participatory processes across all stages of school management, the model aims to enhance both organizational effectiveness and educational quality.

The four core dimensions of the KP4 model Participative Leadership, Collaborative Planning, Inclusive Organization, and Monitoring & Evaluation each represented by key indicators and measured using ten items per dimension. The model emphasizes shared decision-making, joint program design, equitable role distribution, and data-based evaluation as integral components of effective school governance, with a total of forty items capturing its overall structure.

Recent studies further support the argument that democratic and participatory leadership models are more effective in fostering adaptive and innovative school environments (Bush, 2018; Leithwood et al., 2020). However, empirical validation of such integrative models remains limited, particularly in the context of 3T regions. Therefore, this study seeks to examine the effectiveness of the KP4 model in improving school quality through the integration of school management practices and community participation.

Specifically, this research aims to: (1) analyze the effect of the KP4 model on school quality, (2) examine the role of school management in supporting the implementation of the model, and (3) explore how community participation contributes to its effectiveness. Employing a mixed methods approach, this study not only provides robust empirical evidence but also offers an in-depth contextual understanding of how the KP4 model operates in real-world settings. The findings are expected to contribute to the advancement of educational management theory while providing practical implications for policy and practice in improving equitable and inclusive education in disadvantaged regions.

## 2. METHOD

This study employed a mixed methods approach using an explanatory sequential design, in which quantitative data were collected and analyzed in the first phase, followed by qualitative data to explain and elaborate on the quantitative findings. This design is well-suited for examining complex educational phenomena, as it integrates statistical trends with contextual insights derived from participants' experiences (Creswell & Clark, 2018). Accordingly, this approach enabled a comprehensive assessment of the KP4 model's effectiveness, combining measurable outcomes with stakeholder perspectives.

The research was conducted at Saintek Uhamka Boarding School, an institution recognized for its commitment to participatory and collaborative school management. Participants included key school stakeholders, namely the principal, teachers, administrative staff, and representatives of the school committee. A total of 30 respondents were involved in the quantitative phase, while 8 key informants were purposively selected for the qualitative phase based on their roles and involvement in school governance. This sampling strategy is consistent with mixed methods research, the sample size of 30 respondents is considered adequate for descriptive evaluation studies and is consistent with similar small-scale mixed methods research focusing on institutional case analysis. The instrument consisted of 80 items distributed across four dimensions (20 items each). Items were adapted from leadership and school governance literature, where qualitative participants are selected to provide in-depth explanations of quantitative results (Ivankova et al., 2006).

The study was implemented in two sequential phases. In the first phase, quantitative data were collected using a structured questionnaire designed to measure the effectiveness of the KP4 model across its core dimensions. The instrument employed a five-point Likert scale and was constructed based on eight operational indicators derived from four main components: participative leadership, collaborative planning, inclusive organization, and monitoring and evaluation. The analysis involved open coding to identify initial concepts, followed by axial coding to group categories, and thematic coding to generate key themes. In the second phase, qualitative data were collected through semi-structured interviews and participatory observations to further interpret and contextualize the quantitative findings.

Data collection involved multiple techniques to ensure depth and validity, including surveys, in-depth interviews, participatory observation, and document analysis. The quantitative data were obtained from an 80-item Likert-scale questionnaire, while qualitative data were drawn from interview transcripts, field notes, and institutional documents such as evaluation reports and meeting records. Instrument validity was assessed using the Content Validity Index (CVI) with three experts in educational management, confirming the relevance of each item to its construct. Reliability testing produced a Cronbach's Alpha coefficient of 0.87, indicating high internal consistency and exceeding the recommended threshold for social science research (Hair et al., 2019). Trustworthiness was ensured through data triangulation (survey, interviews, documents), member checking with participants, and peer debriefing with fellow researchers. The use of multiple data sources further supported methodological triangulation, enhancing the credibility and trustworthiness of the findings (Braun & Clarke, 2006).

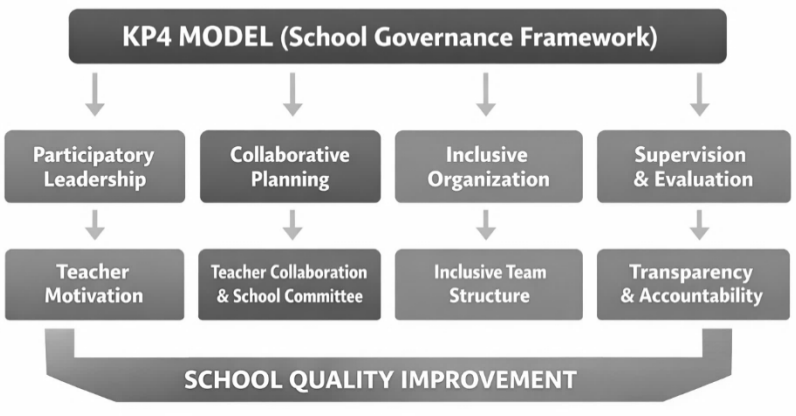



**Figure 1.** KP4 Model (School Governance Framework).

Quantitative data were analyzed using descriptive statistics to assess the effectiveness level of each KP4 indicator and to identify overall implementation patterns. This approach is appropriate for educational evaluation studies, as it provides a clear representation of data distribution and trends (Field, 2018). Qualitative data were analyzed using the interactive model of Miles, Huberman, and Saldaña (2014) the analysis involved open coding to identify initial concepts, followed by axial coding to group categories, and thematic coding to generate key themes, which involves data condensation, data display, and conclusion drawing. This method ensures systematic and rigorous interpretation of qualitative data. The findings from both phases were then integrated through connecting and merging procedures, whereby qualitative results were used to explain and enrich the quantitative findings, resulting in a comprehensive interpretation of the KP4 model's effectiveness.

Conceptually, the KP4 model represents an integrated framework comprising four interrelated dimensions: participative leadership, collaborative planning, inclusive organization, and monitoring and evaluation. These components function as a continuous and dynamic cycle that supports school quality improvement. Participative leadership promotes stakeholder engagement and teacher motivation; collaborative planning enhances coordination among teachers and school committees; inclusive organization ensures equitable team structures; and monitoring and evaluation strengthen transparency and accountability. This integrative framework aligns with contemporary perspectives on educational leadership and school improvement, which emphasize systemic coherence, stakeholder participation, and continuous evaluation (Leithwood et al., 2020 ; Bush, 2018).

## 3. RESULT AND DISCUSSION

### 3.1. RESULT

The quantitative results indicate that the implementation of the KP4 model at SMP–SMA Saintek UHAMKA Boarding School is generally effective. Based on data from 30 respondents, the overall mean score reached 3.957, which falls within the "good" category and approaches the "very good" level, Pearson correlation analysis was conducted to examine relationships among KP4 dimensions. This suggests that the model contributes positively to school quality improvement. The detailed indicator-level results are presented in Table 2.

**Table 1.** Mean Scores of KP4 Model Indicators (N = 30)

| No | Indicator | Mean | Category |
|---|---|---|---|
| 1 | Indicator 1 | 3.975 | Good |
| 2 | Indicator 2 | 4.010 | Good |
| 3 | Indicator 3 | 3.885 | Good |
| 4 | Indicator 4 | 3.994 | Good |
| 5 | Indicator 5 | 4.080 | Very Good |
| 6 | Indicator 6 | 3.855 | Good |
| 7 | Indicator 7 | 3.860 | Good |
| 8 | Indicator 8 | 3.995 | Good |

As shown in Table 2, all indicators are within the “good” category, indicating consistent implementation across the KP4 dimensions. The highest mean score is found in Indicator 5 (M = 4.080), which reflects collaborative planning. This suggests that participatory decision-making is well established, enabling stakeholder involvement in planning processes. Empirical evidence confirms that collaborative planning enhances organizational coherence and collective responsibility in school improvement (Sun & Leithwood, 2015; Leithwood et al., 2020).

In contrast, Indicator 7 (M = 3.860), which represents community-based monitoring and evaluation, shows the lowest mean score. Although still categorized as “good,” this result indicates relatively weaker performance in participatory evaluation. This aligns with findings that stakeholder involvement is often stronger in planning than in accountability mechanisms within school-based management systems (Wohlstetter & Odden, 1992).

The remaining indicators (1, 2, 3, 4, 6, and 8) demonstrate stable mean values ranging from 3.855 to 4.010, indicating effective implementation of participative leadership and inclusive organizational practices. This supports the argument that leadership plays a critical role in fostering collaboration and sustaining school performance. Prior studies have shown that leadership significantly influences school effectiveness and student outcomes (Hallinger, 2011b ; Robinson et al., 2008).

From a systemic perspective, the KP4 model demonstrates internal coherence, where strengths in participative leadership and collaborative planning drive overall effectiveness. However, the relatively lower score in monitoring and evaluation indicates a structural gap that may limit long-term sustainability. According to Kenneth Leithwood, effective school improvement requires alignment between leadership, organizational processes, and evaluation systems. Similarly, Philip Hallinger emphasizes that leadership effectiveness is reflected not only in instructional influence but also in accountability structures.

Overall, the findings of quantitative result confirm that the KP4 model is a promising framework for improving school quality in 3T contexts. Strengthening community-based monitoring and evaluation is essential to ensure that participatory practices extend beyond planning and support continuous quality improvement.

### 3.2. DISCUSSION

The qualitative findings, derived from semi-structured interviews with eight key informants (including the principal, teachers, administrative staff, and school committee members), reveal that the implementation of the KP4 model is strongly supported by participative leadership practices. The principal consistently involves teachers in strategic decision-making, fostering a sense of shared responsibility and collective ownership of school outcomes. This participatory approach enhances

teacher motivation and organizational commitment, which are critical factors in improving school effectiveness. Such findings are consistent with prior research demonstrating that participative leadership significantly contributes to teacher engagement and institutional performance (Hallinger, 2011a ; Leithwood et al., 2020).

In addition, the planning process is conducted collaboratively, involving multiple stakeholders such as teachers, school committees, and parents. This inclusive approach has led to the development of innovative programs, particularly in literacy enhancement and digital-based learning initiatives. The findings indicate that collaborative planning not only strengthens institutional coherence but also promotes innovation and responsiveness to local needs. This aligns with empirical evidence suggesting that shared decision-making processes improve school capacity and effectiveness (Sun & Leithwood, 2015b).

From an organizational perspective, the school demonstrates an inclusive structure that allows teachers to contribute according to their competencies, ensuring a more equitable distribution of roles and responsibilities. However, some challenges remain, particularly in terms of coordination and information dissemination across different units. This suggests that while the structural dimension of inclusivity is well established, the functional aspect of organizational communication requires further strengthening. Similar issues have been identified in studies on distributed leadership, where coordination and communication are essential for sustaining effectiveness (Spillane, 2006).

Furthermore, the findings indicate that the school has implemented community-based monitoring and evaluation practices by involving school committees and parents in periodic meetings and public reporting mechanisms. This reflects a commitment to transparency and accountability in school governance. Nevertheless, the evaluation system is still relatively conventional and has not fully integrated data-driven or technology-based approaches. This limitation may hinder the school's ability to conduct systematic reflection and continuous improvement. Research emphasizes that effective evaluation systems require the use of data and evidence to inform decision-making and sustain long-term improvement (Datnow & Park, 2018).

Overall, these qualitative findings reinforce the effectiveness of the KP4 model as a comprehensive framework for improving school governance through participative leadership, collaborative planning, inclusive organization, and community-based evaluation. The strong alignment between leadership practices and collaborative processes indicates that the model is functioning as an integrated system. However, the relatively limited development of evaluation mechanisms highlights the need for strengthening data-driven and technology-supported monitoring systems. This finding supports the principles of Total Quality Management (TQM), which emphasize continuous improvement, stakeholder involvement, and systemic alignment as key elements of organizational quality enhancement, as articulated by Edward Sallis (2012). In the context of 3T regions, the results suggest that participatory and community-based approaches can effectively leverage social capital to overcome structural limitations, although strengthening evaluation capacity remains essential for ensuring sustainability and scalability.

## 5. CONCLUSION

This study demonstrates that the KP4 model-comprising participative leadership, collaborative planning, inclusive organization, and community-based monitoring and evaluation is effective in improving school governance at SMP–SMA Saintek UHAMKA Boarding School. The overall mean score of 3.957 indicates a "good" level of implementation approaching "very good," with collaborative planning and participative leadership emerging as the strongest dimensions in fostering organizational cohesion and stakeholder engagement.

However, the relatively lower performance in monitoring and evaluation highlights the need to strengthen data-driven and technology-supported accountability systems. While participatory practices are well established in leadership and planning, their extension into systematic evaluation remains limited. This finding confirms that effective school improvement requires alignment between leadership, organizational processes, and evaluation mechanisms, as emphasized by Kenneth Leithwood and Philip Hallinger. Moreover, the KP4 model reflects key principles of continuous improvement and stakeholder involvement consistent with Edward Sallis's Total Quality Management framework.

In the context of 3T regions, the findings highlight that participatory and community-based approaches can effectively leverage social capital to overcome structural limitations. Thus, the KP4 model represents a promising and adaptable framework for improving school quality in resource-constrained settings.

Practically, school leaders are encouraged to integrate digital-based management systems to enhance transparency and efficiency, while teachers and staff require continuous development in collaborative and digital competencies. Community participation should also be expanded through structured evaluation forums to strengthen shared accountability. Future research should test the model across broader contexts and explore its integration with learning analytics to reinforce sustainability and scalability

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