



School Governance, Instructional Quality, and Stakeholder Engagement: Their Influence on School Effectiveness Through Structural Equation Modeling

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Abstract

In an era of heightened accountability and performance expectations in education, understanding the institutional drivers that contribute to successful educational outcomes is critical. Thus, this study investigates the complex interrelationships among school governance, instructional quality, and stakeholder engagement, and how these interconnected dimensions collectively influence school effectiveness. Utilizing a descriptive and causal research design with Structural Equation Modeling (SEM) and stratified random sampling to extract the sample size from the identified population of teachers from higher education institutions in Northern Mindanao, the findings revealed that school governance, instructional quality, and stakeholder engagement are consistently observed practices in the institutions. Furthermore, the regression analysis identified all constructs, school governance, instructional quality, and stakeholder engagement as determinants of school effectiveness. However, school governance emerged as the strongest or best predictor, with the highest coefficient, indicating that improvements in governance practices, such as transparency, accountability, and fairness, have the greatest impact on enhancing overall school performance. In addition, the measurement model revealed that all observed variables significantly load onto their respective latent constructs, with significant values across all indicators.

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These findings and the model fit result index revealed that the structural model only proves to be legitimate, fit, and appropriate for this study. The high and significant loadings suggested that school effectiveness was not a single practice, but rather a combination of governance, instructional quality, and stakeholder engagement within the school system. In conclusion, the study demonstrates that while governance, instruction, and engagement are all crucial dimensions of school operations, their contributions to effectiveness vary in magnitude. These findings may offer a comprehensive strategic framework for educational leaders, policymakers, and institutional heads aiming to drive sustainable improvements in governance, instruction, and engagement.

Keywords: Accountability; Educational Success; Effectiveness; Partnerships; Regression Analysis; School Climate.

1. Introduction

This study aimed to explore what truly makes a school effective, especially in helping students grow and excel. While many studies have already highlighted the importance of strong leadership, effective teaching, and support from parents and the community for school success, there remains a lack of information on how these three factors interact. This is the main gap that this study wants to fill [11]. One key area is the quality of teaching, which includes how teachers teach, how lessons are planned, and how professional teachers are in their work. Good teaching is known to be one of the most important factors for school success [6]. When teachers give lessons that are clear, interesting, and well-prepared, students tend to learn more, stay focused, and do better in school overall Reference [14]. This study aimed to fill that gap by taking a closer look at how school governance, teaching quality, and stakeholder involvement each affect school performance and how they all work together. Using a structured method, the study showed both the direct and indirect effects of these three factors on how effective a school was. This deeper look helped explain how everything connected to help schools succeed.

This study was anchored on Systems Theory [17], Effective Schools Theory [8], and Stakeholder Theory [9]. Recent studies continue to support Systems Theory, showing that strong school leadership, quality teaching, and the active participation of parents and community members are all important for a school to succeed. Effective Schools Theory by [8] serves as a foundational framework for understanding how internal school dynamics influence overall effectiveness. It reinforces the central idea of this study, that factors within the control of schools (governance, instruction, and engagement) are not just influential but essential to student success. Conversely, Stakeholder Theory, introduced by [9], says that for any organization to do well, it needs to consider the needs of everyone involved, not just those inside the organization. In schools, this includes students, teachers, parents, school leaders, government officials, and the local community.

Furthermore, this study examined and analyze how school governance, instructional quality, and stakeholder engagement impact school effectiveness. The following research questions were answered:

1. How do the respondents perceive school governance in terms of:
 - 1.1. transparency,
 - 1.2. accountability,

- 1.3. responsibility and
- 1.4. fairness?

2. How do the respondents perceive instructional quality in terms of:
 - 2.1. Classroom management,
 - 2.2. Supportive climate, and
 - 2.3. Cognitive activation?

3. How do the respondents perceive stakeholder engagement in terms of:
 - 3.1 Stakeholder motivation,
 - 3.2 partnership, and
 - 3.3 decision-making?

4. How do the respondents perceive school effectiveness in terms of:
 - 4.1. Positive school climate,
 - 4.2. Teacher effectiveness,
 - 4.3. Strong leadership, and
 - 4.4. School efficiency?

5. Does school governance significantly influence school effectiveness?
6. Does instructional quality significantly influence school effectiveness?
7. Does stakeholder engagement significantly influence school effectiveness?
8. Which of the independent variables best predict school effectiveness?
9. Which of the independent variables identified through Structural Equation Modeling (SEM) significantly influence the pathways that determine school effectiveness?

2. Methodology

2.1 Research Design

This study applied descriptive and causal research designs to explore how school factors were connected without direct manipulation. Correlation analysis examined links such as teaching quality and school performance, focusing on relationships rather than proving causation [5]. Combining descriptive and causal approaches provided both a clear picture of school dynamics and possible explanations for outcomes. Structural Equation Modeling (SEM) mapped interactions among governance, teaching, and stakeholder involvement, revealing strong and weak connections [26]. Grounded in Systems Theory, the design emphasized schools as interconnected systems where leadership, teaching, and community support influence one another. Prior studies confirmed SEM's usefulness in analyzing complex educational issues [13]. Overall, this research clarified how school components work together and suggested ways to strengthen policies and practices, making education more effective for

teachers and students.

2.2 Research Locale

This study took place in five Higher Education Institutions (HEIs) located in Northern Mindanao, Philippines. These schools were chosen because they already had solid systems in place that supported good leadership and teaching. To get a full picture, the schools selected included both urban and rural campuses. This variety helped the study compare different ways that schools handled governance, teaching quality, and community involvement, and how these factors affected how well the schools performed overall.

2.3 Sampling Design

This study used proportionate stratified random sampling to examine how leadership, teaching quality, and community involvement influenced school performance. Schools in Northern Mindanao were divided into subgroups (strata) based on differences such as type or location, with each group represented according to its actual size. This ensured fair representation and reduced bias, making results more accurate [5]. The method allowed researchers to capture diverse experiences and identify patterns in school success across different contexts.

2.4 Respondents of the Study

This study focused on teachers from five higher education institutions (HEIs) in Northern Mindanao, which perform the trifold functions of teaching, research, and extension under regulatory frameworks of CHED, DepEd, and other agencies. HEIs were chosen for their vital role in shaping student outcomes, advancing knowledge, and driving national growth. To ensure fair representation, faculty lists were obtained from each institution's HR office with presidential approval. Only full-time, regular faculty with at least one year of higher education teaching experience and active service during 2023–2025 were included, with consent required. Part-time teachers, those on long leaves, or faculty outside the selected institutions were excluded. These clear criteria ensured accurate, reliable, and meaningful results reflecting the true teaching population.

2.5 Research Instrument

The tool that was used for this study is a questionnaire made up of four main parts. Each part focuses on a specific area that is important to the goals of this research. Overall, this survey was carefully adapted from trusted sources and slightly modified to fit the local school setting. For example, words like “organization” were changed to “school” to make it more relatable. The changes help ensure that the questions make sense to the teachers answering them, without losing the original meaning. With this well-designed tool, the study hopes to gather useful insights about how school leadership, teaching quality, and community involvement work together to affect how well schools perform.

2.6 Ethical Considerations

This research strictly complied with the ethical standards and guidelines set forth by the Capitol University Research Ethics Board (CUREB), the policies of Capitol University, and the relevant laws and national guidelines of the Republic of the Philippines. The conduct of this study was anchored on the four fundamental ethical principles: respect for persons, beneficence, non-maleficence, and justice. These principles served to uphold the dignity, rights, and welfare of all participants, ensuring that everyone’s involvement was voluntary, informed, and protected at all times.

3. Results and Discussion

3.1 Respondents’ perception on school governance

Table 1 presents the respondents’ perception on school governance in terms of transparency, accountability, responsibility, and fairness.

Table 1: Respondents' perceptions of School Governance

Indicator	Mean		Qualitative Description
Transparency	4.31	0.76	Consistently observed
Accountability	4.41	0.70	Consistently observed
Responsibility	4.53	0.64	Consistently observed
Fairness	4.30	0.75	Consistently observed
Overall	4.39	0.71	Consistently observed

Legend: 4.20 - 5.00 *Consistently observed*, 3.40 – 4.19 *Frequently observed*, 2.60 – 3.39 *Occasionally observed*, 1.80 - 2.59 *Infrequently observed*, 1.00 - 1.79 *Not observed*

Responsibility received the highest rating (M = 4.53), indicating that schools consistently meet their obligations and follow regulations. Fairness had the lowest rating (M = 4.30), suggesting generally fair practices but with room for improvement in reward systems and disciplinary consistency. Overall, the governance mean of 4.39 shows that transparency, accountability, responsibility, and fairness are all consistently observed in schools.

These results imply that effective school governance relies on the integration of responsibility, transparency, fairness, and accountability as interdependent pillars. Strong responsibility practices sustain compliance and institutional trust, while fairness ensures inclusivity and equal opportunity. Continuous improvement in fairness mechanisms, especially in evaluation, rewards, and disciplinary systems, can further enhance stakeholder satisfaction and institutional cohesion. A governance system grounded in these four constructs leads to improved decision-making, stakeholder engagement, and organizational effectiveness, ultimately contributing to the overall success and credibility of the school.

These findings are consistent with the authors in [2], who asserted that well-implemented school governance fosters effective leadership, stakeholder trust, and school improvement. Similarly, the authors in [10] emphasized that governance built upon accountability, transparency, fairness, and responsibility enhances institutional performance and equity, ensuring that educational institutions operate with integrity and efficiency.

3.2 Respondents' perception on instructional quality

Table 2 reveals the respondents' perception on Instructional Quality in terms of classroom management, supportive climate, and cognitive activation.

Table 2: Respondents' perceptions of Instructional Quality

Indicator	Mean	SD	Qualitative Description
Classroom Management	4.58	0.61	Consistently observed
Supportive Climate	4.66	0.59	Consistently observed
Cognitive Activation	4.66	0.54	Consistently observed
Overall	4.63	0.58	Consistently observed

Legend: 4.20 - 5.00 Consistently observed, 3.40 – 4.19 Frequently observed, 2.60 – 3.39 Occasionally observed, 1.80 - 2.59 Infrequently observed, 1.00 - 1.79 Not observed

Supportive Climate and Cognitive Activation received the highest ratings ($M = 4.66$), showing that teachers consistently create a positive environment and provide intellectually engaging instruction. Classroom Management had the lowest mean ($M = 4.58$), still consistently observed, indicating effective organization with some room for refining management strategies. The overall mean of 4.63 reflects strong and consistently observed instructional quality across all areas.

The findings imply that effective instructional quality depends on the synergy between classroom management, supportive relationships, and cognitive engagement. Teachers who establish a safe, structured, and stimulating learning environment not only improve academic performance but also nurture holistic development. However, sustaining high instructional quality requires ongoing professional development, peer collaboration, and reflective teaching practices. Schools should continue to provide capacity-building programs focusing on differentiated instruction, emotional support strategies, and active learning methodologies to maintain and enhance instructional excellence.

These findings are supported by [16], who emphasized that instructional quality is strengthened when teachers effectively combine classroom management, supportive climates, and cognitive activation, leading to improved student outcomes. Similarly, the researchers in [23] found that emotionally supportive and cognitively stimulating classrooms foster engagement, motivation, and achievement, reinforcing that high-quality instruction results from the integration of structure, empathy, and intellectual challenge.

3.3 Respondents' perception on stakeholder engagement

Table 3 discloses the respondents' perception in terms of Stakeholder motivation, partnership, and decision-making.

Table 3: Respondents' perceptions on Stakeholder Engagement

Indicator	Mean	SD	Qualitative Description
Stakeholder Motivation	4.48	0.62	Highly Effective
Partnership	4.53	0.63	Highly Effective
Decision-Making	4.42	0.67	Highly Effective
Overall	4.48	0.54	Highly Effective

Legend: 4.20 - 5.00 Highly effective, 3.40 – 4.19 Effective, 2.60 – 3.39 Moderately Effective, 1.80 - 2.59 Slightly effective, 1.00 - 1.79 Not effective

Partnership received the highest rating (M = 4.53), indicating strong collaboration between the school and its stakeholders. Decision-Making had the lowest mean (M = 4.42), still highly effective but with room to strengthen participatory decision processes. Overall, the mean of 4.48 shows that stakeholder engagement is highly effective, highlighting the vital role of stakeholder motivation, cooperation, and involvement in school success.

The findings imply that maintaining and strengthening stakeholder engagement enhances institutional performance, innovation, and sustainability. Active collaboration fosters a sense of ownership and shared vision, which leads to more effective implementation of school programs and policies. To further strengthen engagement, schools should promote more inclusive decision-making structures, continuous dialogue, and recognition of stakeholder contributions. This approach not only reinforces accountability and transparency but also aligns educational practices with community needs, leading to more responsive and equitable educational outcomes.

These findings align with the authors in [18], who asserted that effective stakeholder partnerships foster a sense of shared responsibility and collective action, driving positive school outcomes. Similarly, active stakeholder engagement through collaboration, communication, and participatory decision-making strengthens institutional governance, enhances educational delivery, and contributes to long-term school effectiveness [22].

3.4 Respondents' perception on school effectiveness

Table 4 presents the respondents' perception on school effectiveness in terms of positive school climate, teacher effectiveness, strong leadership, and school efficiency?

Table 4: Respondents' perceptions on School Effectiveness

Indicators	Mean	SD	Qualitative Description
Positive School Climate	4.58	0.62	Consistently observed
Teacher Effectiveness	4.62	0.58	Consistently observed
Strong Leadership	4.56	0.64	Consistently observed
School Efficiency	4.43	0.71	Consistently observed
Overall	4.55	0.64	Consistently observed

Legend: 4.20 - 5.00 Consistently observed, 3.40 – 4.19 Frequently observed, 2.60 – 3.39 Occasionally observed, 1.80 - 2.59 Infrequently observed, 1.00 - 1.79 Not observed

Results show a strong perception of school effectiveness, with an overall mean of 4.55 (SD = 0.64). This indicates that the school consistently excels across key areas such as climate, teacher effectiveness, leadership, and efficiency. The high rating reflects a well-managed, collaborative environment that supports the achievement of school goals. The results imply that achieving holistic school effectiveness requires sustained efforts in teacher development, leadership capacity-building, and efficient operational systems. Institutions should continue investing in professional development programs, leadership training, and performance monitoring mechanisms to strengthen instructional quality and management efficiency.

The results imply that achieving holistic school effectiveness requires sustained efforts in teacher development, leadership capacity-building, and efficient operational systems. Institutions should continue investing in professional development programs, leadership training, and performance monitoring mechanisms to strengthen instructional quality and management efficiency. Moreover, fostering collaboration between administrators, teachers, and stakeholders can further enhance the school's adaptability and responsiveness to emerging educational challenges. Continuous evaluation of systems and processes will ensure that effectiveness is not only maintained but also aligned with long-term institutional goals.

These findings align with [12], who emphasized that teacher competence and leadership quality are central to achieving school effectiveness. Correspondingly, effective schools exhibit strong instructional practices, positive climates, and efficient management systems that collectively enhance educational outcomes and institutional sustainability [1].

3.5 School governance significantly influencing school effectiveness

Table 5 illustrates the regression analysis results which indicate that school governance has a significant influence on school effectiveness, as shown by the intercept estimate of 1.56, standard error (SE) of 0.25, and a t-value of 6.23 with a p-value less than 0.001.

Table 5: Regression Analysis on School Governance influencing School Effectiveness

Predictor	Estimate	SE	t	p	Interpretation	Decision
Intercept	1.56	0.25	6.23	<.001	Significant	Reject Ho
School_Governance	0.68	0.06	11.96	<.001	Significant	

R²=0.52, p <0.001

The model yielded an R² value of 0.52, meaning that 52% of the variance in school effectiveness can be explained by school governance practices. The very low p-value confirms that the relationship is statistically significant at the 0.05 level, providing strong evidence to reject the null hypothesis (Ho). Effective school governance plays a crucial role in shaping the overall success and performance of educational institutions. The leadership and decision-making structures within schools directly impact various aspects, such as resource allocation, curriculum development, and staff management [20]. When governance is transparent, inclusive, and strategically aligned with the school's vision, it creates an environment that fosters learning and growth. Understanding the dynamics of how governance influences effectiveness is essential for educators, policymakers, and stakeholders seeking to improve the quality of education and student outcomes [19].

3.6 Instructional quality significantly influencing school effectiveness

The Table 6 explains the regression analysis that instructional quality significantly influences school effectiveness, as indicated by the intercept estimate of 1.25 (SE = 0.33, t = 3.74, p < 0.001) and the instructional quality coefficient of 0.71 (SE = 0.07, t = 9.91, p < 0.001).

Table 6: Regression Analysis on Instructional Quality influencing School Effectiveness

Predictor	Estimate	SE	t	p	Interpretation	Decision
Intercept	1.25	0.33	3.74	<.001	Significant	Reject Ho
Instructional_Quality	0.71	0.07	9.91	<.001	Significant	

R=0.66, r-squared= 0.43, p <0.001

The findings imply that prioritizing instructional quality is essential for achieving and sustaining school effectiveness. Administrators should invest in continuous teacher professional development, classroom innovation, and evidence-based pedagogical practices. Schools that emphasize teacher-student engagement, critical thinking, and inclusive learning environments are more likely to produce positive educational outcome. Enhancing instructional quality not only improves teaching performance but also strengthens institutional

credibility and competitiveness in the educational landscape.

These findings are consistent with [6], who emphasized that instructional quality is a critical driver of school success, as effective teaching practices directly influence student learning outcomes. In the same way, high-quality instruction through engaging, adaptive, and reflective teaching significantly enhances overall school effectiveness, confirming that teaching quality remains at the core of institutional excellence [27].

3.7 Stakeholder engagement significantly influencing school effectiveness

As shown in Table 7, the regression analysis revealed that stakeholder engagement significantly influences school effectiveness, as evidenced by the intercept estimate of 1.47 (SE = 0.27, $t = 5.40$, $p < 0.001$) and the stakeholder engagement coefficient of 0.68 (SE = 0.06, $t = 11.34$, $p < 0.001$).

Table 7: Regression Analysis on Stakeholder Engagement influencing School Effectiveness

Predictor	Estimate	SE	t	P	Interpretation	Decision
Intercept	1.47	0.27	5.4	< .001	Significant	Reject Ho
Stakeholder Engagement	0.68	0.06	11.34	< .001	Significant	

R=0.71, r-squared=0.50, $p < 0.001$

The model produced a regression coefficient (R) of 0.71 and an R² value of 0.50, indicating that 50% of the variance in school effectiveness is explained by stakeholder engagement. The highly significant p-value ($p < 0.001$) leads to the rejection of the null hypothesis (Ho), confirming that stakeholder engagement plays a crucial role in promoting institutional success.

The equation shows that for every one-unit increase in stakeholder engagement, the school effectiveness score increases by 0.68 units, assuming other variables remain constant. The intercept of 1.47 represents the baseline level of school effectiveness when stakeholder engagement is minimal. With a t-value of 11.34 and $p < 0.001$, the relationship is highly significant, leading to the rejection of the null hypothesis (Ho). This result confirms that stakeholder engagement has a strong and positive impact on school effectiveness. It implies that when schools actively involve stakeholders such as teachers, parents, students, and community members in decision-making, planning, and implementation processes, they foster greater trust, collaboration, and shared accountability. Such engagement enhances institutional responsiveness, strengthens school-community relationships, and ultimately contributes to improved educational outcomes and organizational success.

In the pursuit of educational excellence, evaluating school environments has emerged as a critical area of focus. Recent assessments of various constructs related to school governance and instructional quality have highlighted the profound impact these dimensions have on overall school effectiveness. With positive responses indicating strong leadership, teacher effectiveness, and a supportive school climate, these elements create a nurturing

atmosphere conducive to learning [25].

3.8 Independent variables that best influences school effectiveness

The regression analysis, as revealed in Table 8, identifies school governance, instructional quality, and stakeholder engagement as significant predictors of school effectiveness. Among these, school governance emerges as the strongest or best predictor, with the highest coefficient (Estimate = 0.41, SE = 0.06, t = 7.05, p < 0.001).

Table 8: Model Coefficients – School Effectiveness

Predictor	Estimate	SE	t	p	Remarks	Decision
Intercept	0.35	0.27	1.31	0.194	Not Significant	Reject Ho
School Governance	0.41	0.06	7.05	< .001	Significant	
Instructional Quality	0.21	0.08	2.60	0.010	Significant	
Stakeholder Engagement	0.31	0.07	4.31	< .001	Significant	

R=0.82, r²=.67, p<0.01

Furthermore, the regression results reveal that school governance, instructional quality, and stakeholder engagement are all significant predictors of school effectiveness, while the intercept (0.35, p = 0.194) is not statistically significant, meaning the baseline level of effectiveness is not meaningful without the predictors. Among the independent variables, school governance ($\beta = 0.41$, p < .001) emerges as the strongest driver, suggesting that transparent policies, effective leadership, and sound administrative systems play a central role in improving school outcomes. Stakeholder engagement ($\beta = 0.31$, p < .001) is also highly influential, reflecting that the active involvement of parents, teachers, students, and community members strengthens school effectiveness by fostering collaboration and shared responsibility. Instructional quality ($\beta = 0.21$, p = 0.010), while comparatively smaller in magnitude, remains significant, indicating that effective teaching practices, curriculum delivery, and assessment strategies directly contribute to improved school performance [21].

According to the authors in [4], good governance characterized by transparency, accountability, participatory decision-making, and ethical leadership fosters an enabling environment in which teaching and learning can flourish. When governance structures are strong, schools are better equipped to effectively implement strategic plans, address the diverse needs of stakeholders, and uphold institutional integrity, all of which are critical for sustained school improvement. The significant predictive value of governance identified in this study further underscores the imperative for education policymakers and school leaders to prioritize the establishment and maintenance of robust governance frameworks as a vital mechanism for driving and enhancing school effectiveness.

Correspondingly, the R^2 value implies that two-thirds of school effectiveness is collectively shaped by governance, instruction, and stakeholder collaboration, confirming that no single element operates in isolation. The remaining 33% of unexplained variance may be due to contextual variables such as leadership style, resource availability, student demographics, or institutional culture. Based on the regression analysis, the regression equation for school effectiveness as influenced by the independent variables is expressed as:

$$Y = 0.35 + 0.41X_1 + 0.21X_2 + 0.31X_3$$

Where: Y = School Effectiveness

X_1 = School Governance

X_2 = Instructional Quality

X_3 = Stakeholder Engagement

The high explanatory power underscores that integrated management approaches, where sound governance supports teacher development and stakeholder inclusion, yield stronger educational outcomes than fragmented initiatives. Practically, this finding calls for school leaders and policymakers to adopt a systems-oriented perspective, strengthening governance mechanisms, instructional quality, and stakeholder participation as interconnected pillars of effectiveness. The R^2 value of 0.67, therefore, affirms that sustainable school improvement is best achieved through synergy among leadership, pedagogy, and community collaboration, reinforcing a holistic framework for excellence and accountability. This strong relationship suggests that effective governance structures are crucial for achieving positive educational outcomes. Effective governance provides a framework for decision-making, which can enhance policy implementation and strategic direction. The remarkable estimate highlights the crucial role that well-defined governance plays in fostering school environments conducive to effective teaching and learning [2].

The model demonstrates a strong overall fit with $R = 0.82$, $p < .001$, meaning that the three predictors collectively explain a substantial proportion of the variance in school effectiveness. This underscores that effectiveness in schools is not determined by a single factor but by the integration of governance structures, instructional excellence, and stakeholder participation. Statistically and methodologically, there is no need to remove any variables from the regression model because all three independent variables, school governance, instructional quality, and stakeholder engagement, are statistically significant predictors of school effectiveness. Each variable has a p-value less than 0.05, indicating that they contribute meaningfully to the model.

Furthermore, the model's overall strength, reflected in a high R value of 0.82 and R^2 of 0.67, shows that the combination of these predictors explains 67% of the variance in school effectiveness, which signifies a strong and well-fitting model. Removing any of these predictors would likely reduce the explanatory power and completeness of the analysis, as each represents a distinct and essential dimension of effective schooling: governance provides

structure and direction, instructional quality drives learning outcomes, and stakeholder engagement fosters collaboration and support. Therefore, all three variables should be retained since they collectively provide a comprehensive understanding of the factors influencing school effectiveness. For educational leaders, these findings underscore the importance of striking a balance between robust administrative systems, instructional improvements, and community engagement to achieve sustained effectiveness [15].

In brief, in the pursuit of enhancing school effectiveness, it is essential to identify the key influences that contribute to student success and overall institutional performance. Among the critical factors, school governance, instructional quality, and stakeholder engagement stand out as independent variables that significantly impact educational outcomes. School governance establishes the framework for decision-making and policy implementation, shaping the direction of educational strategies [1, 3, 20]. Instructional quality ensures that teaching methods and curriculum delivery meet the diverse needs of learners [16, 24, 27], while stakeholder engagement fosters a collaborative environment that unites teachers, parents, and the community [9 22]. Understanding how these elements interact and influence each other can provide valuable insights into improving school effectiveness [4, 15].

3.9 Independent variables identified through Structural Equation Modeling (SEM) significantly influencing the pathways that determine school effectiveness

Before testing and examining the interplay of the variables and the various pathways that determine school effectiveness using structural equation modeling, one essential step is to establish a theoretically and conceptually grounded model that reflects the underpinnings of the study. In this study's situation, the hypothesized model is derived from the schematic diagram developed during the initial stages of the research design. The hypothesized model offers a visual representation of the assumed relationships and pathways that determine school effectiveness, guided by both theoretical foundations as explained in the author in [17] and empirical literature.

The hypothesized model illustrates the interrelationships among key dimensions that collectively shape overall school effectiveness. Grounded in the principles of educational governance and quality assurance, the model posits that school governance, instructional quality, and stakeholder engagement serve as critical predictors influencing the level of school effectiveness. Each construct is represented by observable indicators that reflect their operational characteristics within the school system. This framework highlights how transparent and accountable governance, effective teaching practices, and active stakeholder participation interact to foster a positive and efficient educational environment. Ultimately, the model provides a conceptual basis for understanding how these factors align to enhance institutional performance and student outcomes.

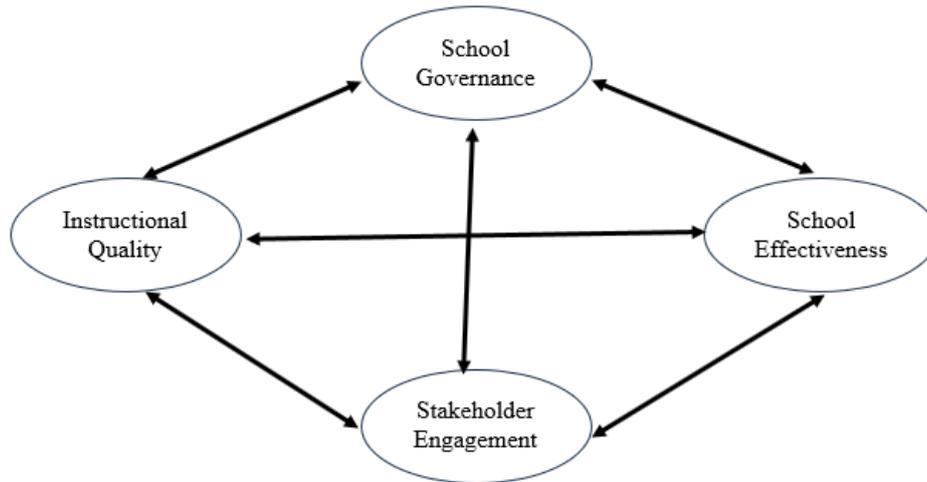


Figure 1: Hypothesized Model

The hypothesized model illustrates the structural relationships among the latent constructs: School Governance, Instructional Quality, Stakeholder Engagement, and School Effectiveness (Exogenous1). Each latent variable is represented by its corresponding observed indicators, such as transparency, accountability, responsibility, and fairness for school governance; classroom management, supportive climate, and cognitive activation for instructional quality; and stakeholder motivation, partnership, decision-making, and positive school climate for stakeholder engagement. The directional arrows indicate hypothesized causal relationships, showing that school governance, instructional quality, and stakeholder engagement jointly influence school effectiveness, while interrelationships among the predictors suggest mutual reinforcement. The model demonstrates a theoretically grounded framework where effective governance and high-quality instruction, supported by active stakeholder participation, collectively enhance overall school performance and institutional effectiveness.

Using structural equation modeling (SEM), the hypothesized relationships were subjected to empirical testing. Model fit was assessed through multiple indices to determine whether the proposed structure adequately represents the problem of determining the best model to school effectiveness. The results indicated that both latent constructs and their corresponding observed variables were statistically significant. This further confirms that the identified variables are relevant measures of the theoretical dimensions. High factor loadings demonstrate that the observed variables consistently represent latent constructs, suggesting the overall model fully met the threshold for acceptable fit.

Table 9 summarizes the structural equation estimates influencing the direct and indirect pathways that determine and affect school effectiveness. The measurement model reveals that all observed variables significantly load onto their respective latent constructs, with $p < .001$ across indicators. This demonstrates that the proposed dimensions are reliable and valid representations of their higher-order factors.

Table 9: Structural Equation Estimates influencing the pathways that determine School Effectiveness

Latent	Observed	Estimate	p	Remarks
School Governance	Transparency	1.00	< .001	Significant
	Accountability	1.05	< .001	Significant
	Responsibility	0.92	< .001	Significant
	Fairness	1.07	< .001	Significant
Instructional Quality	Classroom Management	1.00	< .001	Significant
	Supportive Climate	0.91	< .001	Significant
	Cognitive Activation	0.78	< .001	Significant
Stakeholder Engagement	Stakeholder Motivation	1.00	< .001	Significant
	Partnership	1.06	< .001	Significant
	Decision Making	0.97	< .001	Significant
School Effectiveness	Positive School Climate	0.76	< .001	Significant
	Teacher Effectiveness	1.00	< .001	Significant
	Strong Leadership	1.17	< .001	Significant
	Strong Efficiency	1.27	< .001	Significant

As revealed in Table 9, School Governance is strongly defined by fairness (1.07) and accountability (1.05), suggesting that policies ensuring just practices and clear responsibility structures are key in capturing governance effectiveness, while transparency (1.00) and responsibility (0.92) remain solid contributors. Instructional Quality is most strongly reflected by classroom management (1.00), underscoring its centrality in maintaining effective teaching environments, with supportive climate (0.91) and cognitive activation (0.78) complementing the construct. Stakeholder Engagement is shaped most heavily by partnership (1.06) and decision-making (0.97), indicating that collaborative and participatory practices are crucial. Motivation (1.00) and favorable school climate (0.76) also play meaningful roles. Lastly, School Effectiveness emerges as most strongly reflected by strong efficiency (1.27) and strong leadership (1.17), emphasizing operational competence and visionary leadership as critical indicators, while teacher effectiveness (1.00) anchors the construct. Therefore, the null hypothesis, which states that none of the independent variables creates significant pathways that determine school effectiveness, is hereby rejected.

Overall, the findings affirm the robustness of the model, where governance, instructional quality, and stakeholder engagement are measured by reliable observed variables that in turn define school effectiveness. The strength of the loadings suggests that efficiency, fairness, and partnerships are among the most defining indicators, while cognitive activation and favorable school climate, though still significant, exert relatively smaller contributions within their constructs. After applying structural equation modeling to examine the relationships among school governance, instructional quality, and stakeholder engagement as predictors of school effectiveness, the resulting model can be expressed in the form of a structural equation that quantifies the direct and indirect effects of each construct. Specifically, the analysis revealed that governance dimensions such as transparency, accountability, responsibility, and fairness, together with instructional quality factors like classroom management, supportive climate, and cognitive activation, as well as stakeholder engagement through motivation, partnership, and

decision-making, significantly contribute to overall school effectiveness. Thus, the structural equation is expressed as follows:

$$Y = 1.00X_1 + 1.17X_2 + 1.27X_3 + 1.00X_4 + 1.05X_5 + 0.92X_6 + 1.07X_7 + 1.00X_8 + 0.91X_9 + 0.78X_{10} + 1.00X_{11} + 1.06X_{12} + 0.97X_{13} + 0.76X_{14}$$

Where: Y = School Effectiveness

X₁ = Teacher Effectiveness

X₂ = Strong Leadership

X₃ = Strong Efficiency

X₄ = Transparency

X₅ = Accountability

X₆ = Responsibility

X₇ = Fairness

X₈ = Classroom Management

X₉ = Supportive Climate

X₁₀ = Cognitive Activation

X₁₁ = Stakeholder Motivation

X₁₂ = Partnership

X₁₃ = Decision-Making

X₁₄ = Positive School Climate

The Structural Equation Model (SEM) is justified as the best model for this study because it effectively captures the complex, multidimensional relationships among latent constructs, including School Governance, Instructional Quality, Stakeholder Engagement, and School Effectiveness, while simultaneously accounting for measurement errors. All observed indicators have high and significant factor loadings ($p < .001$), confirming that each latent variable is well-represented by its corresponding observed variables. The model's strong fit indices (as implied by significant paths and consistent relationships) demonstrate that the hypothesized structure aligns well with the empirical data. Moreover, the SEM approach goes beyond simple regression by allowing both direct and indirect

effects to be analyzed, providing a holistic understanding of how governance, instructional practices, and stakeholder participation collectively influence school effectiveness. The high estimates across constructs (ranging from 0.76 to 1.27) indicate robust associations, further validating the model's reliability and explanatory power. Therefore, the SEM model is the most appropriate and comprehensive analytical framework, as it captures the interconnected nature of educational processes and provides a strong empirical basis for explaining and improving school effectiveness.

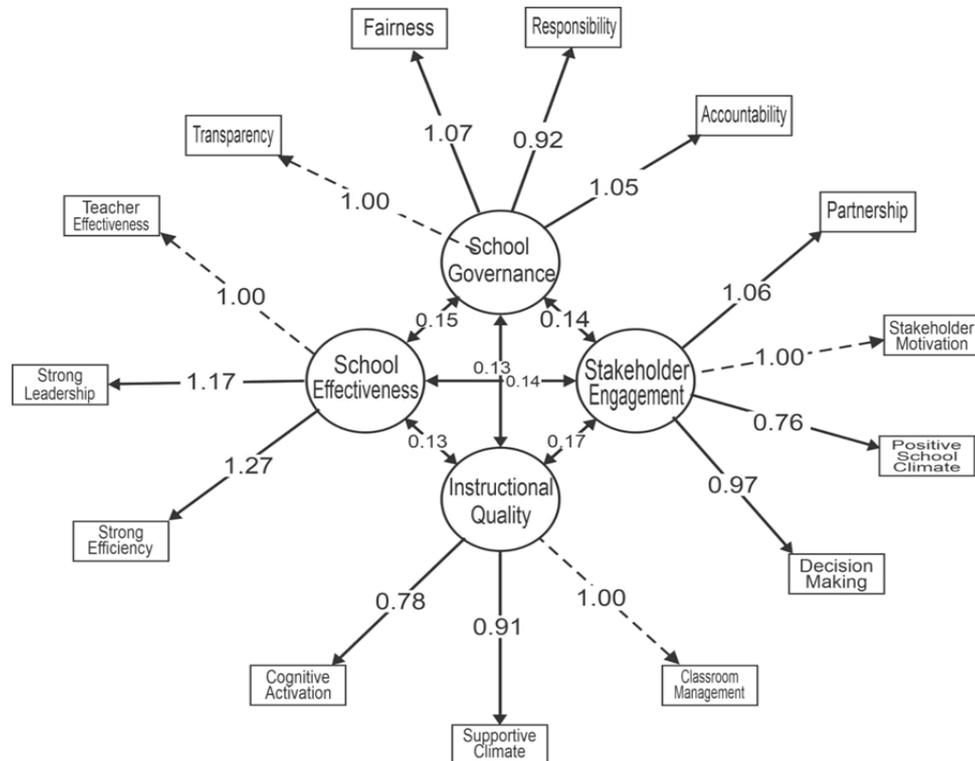


Figure 2: Petalcorin and Tan's Path Diagram illustrating the pathways that determine School Effectiveness

As a final point, in the pursuit of enhancing school effectiveness, understanding the key factors that contribute to a positive learning environment is crucial. Recent research highlights the significant role of a favorable school climate, suggesting that it is the primary predictor of overall school success [15]. The findings of this study delve into the nuances of how a supportive and respectful atmosphere within educational institutions can lead to improved academic and organizational outcomes. By examining the interplay between various influences, including stakeholder motivation and decision-making, we aim to underscore the importance of fostering positivity in schools for the benefit of both students and teachers alike [7].

4. Conclusion

The study's findings demonstrate that school governance plays a crucial role in shaping institutional effectiveness, with transparency, responsibility, and fairness emerging as the strongest predictors. While accountability was consistently observed in practice, it did not show a significant influence on outcomes, suggesting that existing accountability frameworks may not be directly driving measurable improvements. Instead, fostering responsibility

among stakeholders and promoting transparency in processes appear to have the most significant impact in building trust, sustaining compliance, and ensuring ethical practices that enhance school effectiveness.

Instructional quality also proved to be a significant determinant of school effectiveness, particularly through classroom management and cognitive activation. Teachers who establish structured learning environments, enforce consistent rules, and promote higher-order thinking contribute substantially to positive student outcomes. Interestingly, supportive climate, although highly rated by respondents, did not emerge as a significant predictor, indicating that while nurturing and inclusive classroom environments are valued, they may only indirectly influence academic achievement when not paired with strong instructional strategies.

Stakeholder engagement, despite being highly regarded in terms of motivation, partnerships, and decision-making, did not show a significant statistical influence on school effectiveness. This finding highlights a disconnect between perceived engagement and actual measurable outcomes. Instead, the study revealed that a favorable school climate serves as a stronger predictor of effectiveness, suggesting that while stakeholders play an important role, their contributions must be embedded in a culture of inclusivity, collaboration, and mutual respect to create meaningful educational impact.

The results on overall school effectiveness reveal that teacher effectiveness, strong leadership, and school efficiency are consistently observed, with teachers receiving the highest ratings. Effective teaching practices, coupled with leadership that fosters innovation and accountability, create a strong institutional foundation. Resource management and organizational efficiency further complement these strengths, ensuring that schools maximize their capabilities in delivering quality education. Together, these factors affirm that effective schools are those that integrate governance, instruction, and leadership in a balanced and interconnected manner.

In conclusion, the study demonstrates that while governance, instruction, and engagement are all crucial dimensions of school operations, their contributions to effectiveness vary in magnitude. Responsibility, transparency, classroom management, and cognitive activation stand out as the most influential predictors, while stakeholder engagement variables show limited direct impact. The consistent role of favorable school climate across analyses emphasizes that fostering inclusive and supportive environments is key to translating policies and practices into tangible outcomes. Thus, for schools to achieve lasting effectiveness, they must strengthen governance and instruction while cultivating a culture that values collaboration, equity, and responsibility.

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