



The Influence of School-Based Management and Leadership on Student Academic Achievement: The Mediating Role of Teacher Performance

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Abstract

This study aims to analyse the effect of School-Based Management (SBM) and the leadership style of school principals on teacher performance and its implications for student academic achievement at SMK Tarbiyatunnasyiin Jombang. The research uses a correlational quantitative approach with a field research design, where data is collected through questionnaires, observations, and literature studies. The analysis is carried out using a statistical model to determine the direct and indirect relationships between variables. The results show that School-Based Management (SBM) plays an important role in improving academic achievement by strengthening teacher performance. In addition, the principal's leadership style has an influence on improving teacher performance, although it does not directly have a significant effect on student academic achievement. Thus, the combination of effective SBM implementation and participatory leadership by the principal is a key factor in creating optimal teacher performance and improving the quality of education in schools. Theoretically, this research enriches the study of adaptive, collaborative, and quality-oriented Islamic education management. Practically, the results of this study can be used as a reference for school principals and education policymakers in developing leadership strategies and school management that focus on empowering teachers and improving student learning outcomes.

Abstrak

Penelitian ini bertujuan untuk menganalisis pengaruh Manajemen Berbasis Sekolah (MBS) dan gaya kepemimpinan kepala sekolah terhadap kinerja guru serta implikasinya terhadap prestasi akademik siswa di SMK Tarbiyatunnasyiin Jombang. Penelitian menggunakan pendekatan kuantitatif korelasional dengan desain penelitian lapangan, dimana data dikumpulkan melalui angket, observasi, dan studi pustaka. Analisis dilakukan menggunakan model statistik untuk mengetahui hubungan langsung maupun tidak langsung antar variabel. Hasil penelitian menunjukkan bahwa Manajemen Berbasis Sekolah (MBS) berperan penting dalam meningkatkan prestasi akademik melalui penguatan kinerja guru. Selain itu, gaya kepemimpinan kepala sekolah memiliki pengaruh terhadap peningkatan kinerja guru, meskipun tidak secara langsung berpengaruh signifikan terhadap prestasi akademik siswa. Dengan demikian, kombinasi antara penerapan MBS yang efektif dan kepemimpinan partisipatif kepala sekolah menjadi faktor kunci dalam menciptakan kinerja guru yang optimal dan peningkatan mutu pendidikan di sekolah. Secara teoritis, penelitian memperkaya kajian tentang manajemen pendidikan Islam yang adaptif, kolaboratif, dan

berorientasi mutu. Secara praktis, hasil penelitian ini dapat menjadi rujukan bagi kepala sekolah, pemangku kebijakan pendidikan dalam mengembangkan strategi kepemimpinan serta pengelolaan sekolah yang berfokus pada pemberdayaan guru dan peningkatan hasil belajar siswa.

INTRODUCTION

Improving the quality of education is one of the main focuses of national development. This effort is carried out through strengthening regulations, empowering educational resources, and increasing the capacity of educational institutions throughout Indonesia. The government has implemented a number of strategic policies, such as Law No. 20 of 2003 on the National Education System, Government Regulation No. 19 of 2005 on National Education Standards, and Law No. 14 of 2005 on Teachers and Lecturers. These regulations form the legal basis for strengthening the professionalism of educators, improving the quality of institutions, and realising equitable access to quality education (Royani et al., 2024). Within this framework, the Directorate General of Teachers and Educational Personnel (GTK) of the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek) emphasises that improving the quality of education must take into account four main aspects, namely national policy, school leadership, educational infrastructure, and the quality of the learning process (Fildzah, 2020).

School principals play a highly strategic role in guiding, mobilising, and motivating the entire school community to adapt to change and improve the quality of learning (Nordin et al., 2020). Innovative and participatory leadership has proven to be a key factor in creating schools that are excellent and adaptable to the challenges of the 21st century (Arina et al., 2023). In line with this perspective, the integration of 21st-century competencies -commonly referred to as the 4C competencies (critical thinking, creativity, collaboration, and communication)- has become an essential component in Islamic educational innovation. A study by Ismantara et. al. (2025) at the Tapak Sunan Islamic Boarding School demonstrated that implementing 4C competencies in *fiqh* learning through the study of *Fathul Qorib* successfully improved *santri* engagement and the relevance of Islamic learning to contemporary educational needs. One strategy that emphasises the decentralised role of school leadership is the implementation of School-Based Management (SBM). SBM is an educational management approach that gives schools greater autonomy to manage resources and make decisions according to local needs (Lisyawati & Mastiyah, 2022). This approach also emphasises transparency, accountability, and community participation in school programme planning and implementation (Fullan & Watson, 2000).

In practice, SBM is an important instrument in supporting school quality improvement. Through this system, schools are expected to be able to strengthen resource management efficiency, build collaboration with the community, and create an effective learning environment. Setyaningrum (2022) asserts that the implementation of performance-based total quality management in non-formal Islamic educational institutions has been proven to improve teacher accountability and performance. This shows that strengthening

performance-based management in line with the participatory values of MBS can be an effective strategy in improving the quality of Islamic education.

However, various studies show that the implementation of MBS in Indonesia still faces quite complex challenges. Saifulloh and Darwis (2020) found that many schools do not yet fully understand the concept of MBS, so its implementation has not been optimal. Other challenges that arise are resistance to change, limited managerial competence, and low participation of school stakeholders (Yaqien, 2021). In addition, weak coordination between parties and suboptimal teamwork also hamper the effectiveness of MBS implementation at the educational unit level. These conditions indicate a gap between the concept and implementation of the MBS policy in the field (Rahayu, 2024).

In this context, the leadership of the head teacher is a central factor that determines the success of MBS implementation. Effective leadership styles can influence teachers' motivation, job satisfaction, and loyalty to educational institutions. In line with the opinions of Saihu (2020) and Indri (2023), leadership is not only related to formal authority but also the ability to influence and inspire subordinates to work with enthusiasm and responsibility. Malik et al. (2021) emphasise that collaborative and communicative leadership will strengthen the synergy between teachers and principals in achieving organisational goals. Thus, school leadership has a direct impact on improving teacher performance and ultimately contributes to student academic achievement.

Teacher performance is one of the main indicators of the success of an educational institution. Good performance not only includes professionalism in teaching but also reflects job satisfaction, commitment, and loyalty to the school (Ramadhani et al., 2023). Previous research shows that a participatory and supportive principal leadership style has a positive effect on improving teacher performance (Sulfemi, 2020). This is in line with the research by Barokah et al. (2024), which found a significant influence between the implementation of school-based management and principal leadership on teacher performance and student academic achievement in centres of excellence.

Improvements in education quality cannot be separated from the synergy between the school management system, the principal's leadership style, teacher performance, and community support for educational institutions. Effective implementation of school-based management will result in a conducive, transparent, and collaborative working climate, which will ultimately have an impact on improving the quality of learning. In the context of Islamic education, SBM also has strategic value in strengthening governance based on morals, trust, and social responsibility.

Based on this description, this study focuses on analysing the influence of school-based management and the principal's leadership style on teacher performance at SMK Tarbiyatunnasyiin Jombang. This study is expected to provide empirical contributions to strengthening an adaptive, participatory, and quality-oriented Islamic education management model, as well as enriching the wealth of educational management studies in Indonesia.

RESEARCH METHOD

This study utilises field research, specifically quantitative analysis, employing correlation methods to link selected variables and examine the extent to which one variable relates to another. The approach used in this study is quantitative, emphasising numerical data (figures) processed using statistical methods (Siregar, 2021). Data was collected, analysed, and interpreted in numerical form to obtain statistical findings. Due to the presence of intervening variables, the correlation analysis was supplemented with a mediation test through path analysis (PROSESS Model 5 or SEM) using the bootstrapping technique to test indirect effects along with a 95% confidence interval.

The research approach used in this study is a correlational, normative, and quantitative or mathematical approach analysed based on problems in the form of current facts from a population. The aim is to test hypotheses or answer questions related to the current status of the subject being studied. This type of research generally relates to opinions (individual, group or organisational), events or procedures. This study seeks to reveal the influence of school-based management (SBM) and principal leadership style on student academic achievement with teacher performance as an intervening variable (confounding factor) to be conducted at SMK Tarbiyatunnasyiin Jombang.

School-based management (SBM) is the first independent variable with indicators used in this study consisting of (X1): independence, partnership, participation, openness or transparency, and accountability. Meanwhile, the principal's leadership style is the second independent variable (X2) with indicators: task implementation, providing support, prioritising results over processes, and providing guidance. Student academic achievement (Y) is the result or achievement obtained by students from learning activities, which is expressed in the form of certain numbers or symbols with reference to knowledge, understanding, use/application, analysis, and synthesis. Teacher performance as the intervening variable (Z) is the performance shown or the results achieved by teachers in carrying out their duties and responsibilities within a specified period of time, with performance assessment indicators based on: Effectiveness and efficiency, Authority, Discipline, and Initiative.

The population in this study consisted of all 29 teachers at SMK Tarbiyatunnasyiin Jombang, comprising all teachers at SMK Tarbiyatunnasyiin Jombang, commonly referred to as saturated sampling or total sampling (census), so that all members of the population were included in the sample ($n = 29$). Brief inclusion criteria: permanent/honorary teachers who were actively teaching during the year of the study and were willing to complete the questionnaire. In the event of non-response, the actual sample size followed the number of questionnaires returned, but the sampling technique remained a census.

The data collection techniques used in this study consisted of questionnaires, observation and literature study. The data analysis method used was Partial Least Square (PLS) to determine the complexity of the relationship between one construct and another, as well as the relationship between a construct and its indicators. Four stages were carried out in

PLS processing, namely designing a structural model (inner model), designing a measurement model (outer model), and conducting an evaluation test of the measurement model or outer model. Next, testing the structural model or inner model is carried out. At this stage, the aim is to determine whether there is an influence between variables. In the inner model evaluation, there are several things that need to be considered, namely R2 (R-Square). Then, the path coefficient estimation is the estimation of the path relationship in the inner model obtained from the bootstrapping procedure by looking at the t-statistic (for hypothesis testing).

RESULTS AND DISCUSSION

The majority of teachers at SMK Tarbiyatunnassyiin have between 1 and 10 years of teaching experience, comprising 25 people, while only 5 people have between 31 and 40 years of teaching experience. They (the teachers) come from schools outside the foundation as well as from the foundation itself, so in general almost all of them have worked for between 1 and 10 years.

Descriptive information about teaching experience shows that teaching experience varies, ranging from a minimum of 1 year to a maximum of 35 years, with an average teaching experience of 10 years. This indicates that they may be in a period of adjustment or adaptation to the school environment. Nevertheless, the quality of teaching can be improved through support from the school and guidance from colleagues with longer teaching experience.

The results of the convergent validity test, based on the outer loadings table, show that all outer loading indicator constructs have a loading value > 0.5, so it can be concluded that this measurement meets convergent validity.

Table A.1: Cross Loading Calculation Results

	SBM	Leadership	Academic Achievement	Teacher Performance
X1.1	0.927	0.741	0.875	0.813
X1.2	0.836	0.753	0.828	0.897
X1.3	0.927	0.873	0.853	0.861
X1.4	0.954	0.567	0.651	0.600
X1.5	0.947	0.908	0.892	0.909
X2.1	0.263	0.874	0.277	0.314
X2.2	0.835	0.936	0.818	0.819
X2.3	0.744	0.984	0.726	0.732
X2.4	0.674	0.977	0.660	0.648
Y.1	0.9801	0.832	0.891	0.891
Y.2	0.899	0.756	0.887	0.900
Y.3	0.907	0.901	0.907	0.902
Y.4	0.841	0.780	0.944	0.885
Y.5	0.912	0.840	0.937	0.932

	SBM	Leadership	Academic Achievement	Teacher Performance
Z.1	0.670	0.676	0.709	0.871
Z.2	0.662	0.672	0.685	0.934
Z.3	0.909	0.916	0.907	0.898
Z.4	0.838	0.702	0.806	0.834

Source: Authors' Analysis Research Data

The cross-loading values for each indicator of each latent variable are greater than the cross-loading values when linked to other latent variables. This means that each latent variable already has good discriminant validity, where some latent variables have measures that are highly correlated with other constructs.

The composite reliability of block indicators that measure a construct can be evaluated using the composite reliability value. A dimension is considered reliable if it has a composite reliability value above 0.7. Validity and reliability criteria can also be seen from the reliability value of a construct. Composite reliability that measures a construct can be evaluated using two types of measures, namely internal consistency and Cronbach's alpha.

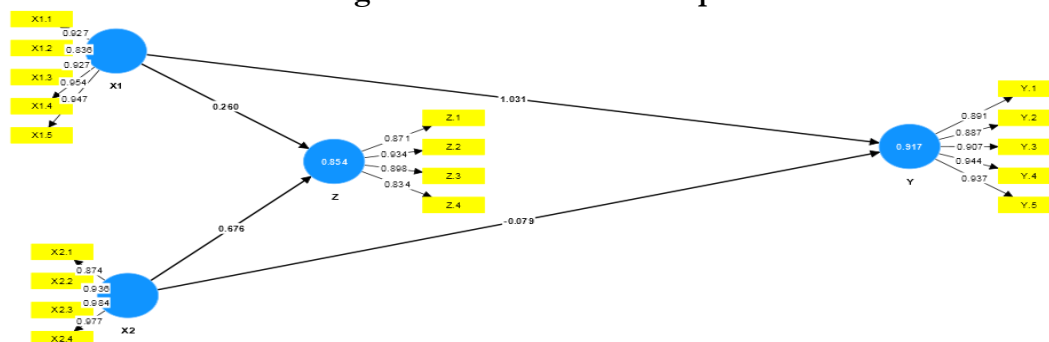
Table A.2: Calculation Results Using Composite Reliability (pc)

	Cronbach's alpha	Composite reliability (rho_a)
X1	0.969	0.972
X2	0.936	0.960
Y	0.978	0.979
Z	0.954	0.960

Source: Authors' Analysis Research Data

A construct is considered reliable if the composite reliability value is above 0.7. Therefore, it can be concluded that all research variables are considered reliable.

Figur A.1: Outer Model Grapic



Source: Authors' Analysis Research Data

Inner model or structural model testing is used to evaluate whether there is a relationship between constructs, significance values and R-square of the research model. This structural model is evaluated using R-Square for dependent constructs and the Stone-Geisser Q-Square test for predictive relevance. If the R-Square value is greater than 0.2, it can be

interpreted that the latent predictor has a significant influence at the structural level. The following are the R-Square calculation results obtained.

Table A.3: Calculation results using composite reliability (pc)

	R-square	R-square adjusted
Academic Achievement	0.971	0.970
Teacher Performance	0.938	0.936

Source: Authors' Analysis Research Data

It can be concluded that: First, the academic achievement variable (Y) is influenced by School-Based Management (X1), Principal Leadership Style (X2) and Teacher Performance (Z) by 0.936 or 93.6% (strong). The remainder is influenced by other factors that were not examined further. Second, the Teacher Performance variable (Z) is influenced by School-Based Management (X1) and Principal Leadership Style (X2) by 0.970 or 97% (strong). The remainder is influenced by other factors that were not examined further.

The results of hypothesis testing by comparing the t-value with the t-table value show that if the t-value is greater than the t-table value, the relationship between the variables is significant and can be analysed further. With a sample size of 30 teachers, the t-table value ($\alpha = 10\%$) is 1.70329. If the t-count is greater than the t-table, the effect is significant, whereas if the t-count is less than the t-table, the effect is insignificant. The results of the hypothesis testing are presented in Table A.4 below:

Table A.4: Hypothesis Testing Results

H	Influence	Koef Path	T-Count	P-Values	Description
H1	School-Based Management → Academic Achievement	0,985	1.811	0.000	Significant
H2	Leadership → Academic Achievement	0,153	2.188	0.000	Significant
H3	Teacher Performance → Academic Achievement	0,643	2.318	0.000	Significant
H4	School-Based Management → Teacher Performance	0,819	2.171	0.001	Significant
H5	Leadership → Teacher Performance	0,325	2,761	0,019	Significant
H6	School-Based Management through Teacher Performance → Academic Achievement	0,092	4.137	0.001	Significant
H7	Leadership through Teacher Performance → Academic Achievement	0,153	2.188	0.000	Significant

Source: Authors' Analysis Research Data

Based on Table A.4, it can be seen that all seven pathways show a significant effect. The interpretation of Table 5.8 can be explained as follows:

1. School-based management has a positive and significant effect on academic achievement with a t-value $>$ t-table ($1.811 > 1.70329$) and a path coefficient of 0.985. This coefficient indicates that an increase in school-based management will significantly improve academic achievement.
2. Leadership style has a positive and significant effect on Academic Achievement with a t-value $<$ t-table ($1.121 < 1.70329$) and a path coefficient of 0.001. This coefficient indicates that an increase in the principal's leadership style will increase Academic Achievement insignificantly.
3. Teacher performance has a positive and significant effect on academic achievement with a t-value $>$ t-table ($2.318 > 1.70329$) and a path coefficient of 0.643. This coefficient indicates that an increase in teacher performance will increase academic achievement.
4. School-based management has a positive and significant effect on teacher performance with a t-value $>$ t-table ($2.171 > 1.70329$) and a path coefficient of 0.819. This coefficient indicates that an increase in school-based management will increase teacher performance.
5. The principal's leadership style has a positive and significant effect on teacher performance with a t-value $>$ t-table ($2.761 > 1.70329$) and a path coefficient of 0.325. This coefficient indicates that increased leadership will improve teacher performance.
6. School-based management through teacher performance has a positive and significant effect on academic achievement with a t-value $>$ t-table ($4.137 > 1.70329$) and a path coefficient of 0.092.
7. The leadership style of the school principal through teacher performance has a positive and significant effect on student academic achievement with a t-value $>$ t-table ($2.188 > 1.70329$) and a path coefficient of 0.153.

The results of testing using Partial Least Square show that hypothesis H7, 'the influence of principal leadership on academic achievement through teacher performance in research,' is proven to be significant. This can be seen from the Specific Indirect Effect table, which shows that the P-Values and T-Statistics meet the significance requirements. Meanwhile, for the path coefficient, it was found that the relationship between X1 and Y through Z is a positive relationship.

The results show that F-count $>$ F-table ($\alpha=0.05$) with $p < 0.05$, so that simultaneously the independent variables (and mediators in Model 2) have a significant effect on Academic Achievement. To reinforce this, report R^2 (for Y and M) and, if using PLS-SEM, the Q^2 value > 0 (predictive relevance) and SRMR < 0.08 (optional).

This is known from the analysis results, namely that the principal's leadership style through teacher performance has a positive and significant effect on Teacher Performance with a t-value $>$ t-table ($2.188 > 1.70329$) and a path coefficient of 0.153.

CONCLUSION

Based on the results of the research described above, it can be concluded that School-Based Management (SBM) plays a significant role in improving academic achievement through strengthening teacher performance. In addition, the leadership style of the head teacher also has a positive effect on improving teacher performance, although it does not directly and significantly affect student academic achievement. Thus, the combination of effective SBM implementation and participatory school leadership is a key factor in creating optimal teacher performance and has implications for improving the quality of education in schools.

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