Strategies for Optimizing Teacher Service Quality through Strengthening Knowledge Management, Interpersonal Communication, Organizational Support, and Job Satisfaction

Andi Hermawan[1*], Andri Kusuma Wardani[2], Endang Susilowati[1], & Ulfiah Hanum[1]
[1]Department of Educational Management, Universitas Pakuan, Indonesia
[2]SMK Swasta PGRI 2 Cibinong, Indonesia

Abstract: This study investigates strategies to improve the quality of teacher services in vocational high schools by examining the roles of knowledge management, interpersonal communication, organizational support, and job satisfaction. As vocational education serves as a cornerstone for human resource development, teacher performance plays a critical role in achieving its objectives. However, initial findings indicate that teacher service quality at PGRI Vocational High Schools in Bogor Regency remains below expectations, particularly in dimensions such as reliability, responsiveness, assurance, empathy, and tangibles. This research aims to propose actionable strategies to address these shortcomings by exploring the interrelationships among key variables. Adopting a mixed-method approach, the study utilized path analysis to test hypotheses regarding the relationships among variables and employed the SITOREM method to prioritize indicators for improvement. From a population of 289 teachers, a sample of 168 was selected using the Slovin formula. Data collection was conducted through validated and reliable questionnaires, followed by statistical analyses, including normality tests, regression analysis, and multicollinearity assessments, ensuring the reliability and robustness of the findings. The results demonstrated significant direct and indirect effects of knowledge management, interpersonal communication, and organizational support on job satisfaction and teacher service quality. Critical areas identified for improvement included knowledge acquisition, openness, fairness, and job satisfaction, while strengths such as knowledge utilization and group equity were highlighted for maintenance. The SITOREM analysis provided a structured approach to prioritize interventions, identifying fairness, supervisor support, and empathy as key areas for actionable improvement. This study emphasizes the interconnected role of leadership, effective communication, and supportive organizational structures in creating an environment conducive to high-quality teaching. Its findings contribute to the broader dialogue on enhancing teacher service quality in vocational education. Practical recommendations include implementing targeted training initiatives, revising institutional policies, and fostering supportive organizational cultures. While the study offers valuable insights, it acknowledges limitations such as its reliance on self-reported data and the contextual focus on vocational high schools. Future research is encouraged to include additional variables and expand the findings to different educational contexts.

Keywords: teacher service quality, knowledge management, interpersonal communication, organizational support, job satisfaction, SITOREM analysis.

▪ **INTRODUCTION**

The quality of teacher services is a critical determinant of educational success, particularly in vocational education, which is essential for equipping students with the skills required in today's workforce. Vocational high schools, particularly those within the PGRI network in Bogor Regency, have faced persistent challenges in meeting expected service quality standards. These challenges manifest in areas such as reliability,

responsiveness, assurance, empathy, and tangibles key dimensions that collectively define teacher service quality. Addressing these shortcomings necessitates a multidimensional approach that incorporates organizational, interpersonal, and psychological factors.

Theoretical frameworks on teacher service quality underscore the importance of knowledge management, interpersonal communication, organizational support, and job satisfaction. Knowledge management, which involves acquiring, sharing, and utilizing knowledge within an organization, is fundamental to fostering innovation and enhancing performance (Nonaka & Takeuchi, 1995; Alavi & Leidner, 2001). In the context of vocational education, effective knowledge management ensures that teachers are equipped with the skills and expertise necessary to deliver high-quality education. Additionally, interpersonal communication plays a pivotal role in shaping organizational efficiency and collaboration. Effective communication within teams and with stakeholders promotes cohesion and enhances service delivery (Keyton, 2017; Gluyas, 2015).

Organizational support, defined as the resources and psychological reinforcement provided by an institution to its employees, is another key factor influencing job satisfaction and performance. Teachers who perceive strong organizational support are more likely to exhibit behaviors that enhance service quality (Eisenberger et al., 1986; Rhoades & Eisenberger, 2002). Furthermore, job satisfaction a multidimensional construct encompassing cognitive and emotional aspects has consistently been linked to increased productivity and organizational citizenship behaviors, contributing to better service delivery (Judge et al., 2001; Locke, 1976).

Despite these established theoretical linkages, there is limited empirical research on the interplay among these variables within the vocational education context. Most studies have been conducted in general education settings, leaving the unique challenges of vocational high schools such as diverse learner needs and the demand for industry-specific skills—largely unexplored. Additionally, while international research has extensively examined organizational support and communication, localized studies focusing on Indonesian vocational schools are scarce, creating a significant gap in understanding contextual dynamics.

This study aims to address these gaps by examining the relationships among knowledge management, interpersonal communication, organizational support, job satisfaction, and teacher service quality in vocational high schools. Specifically, it seeks to answer three research questions: How do knowledge management, interpersonal communication, and organizational support individually and collectively impact job satisfaction? To what extent does job satisfaction mediate the relationship between these predictors and teacher service quality? What critical indicators for improving teacher service quality can be identified using SITOREM analysis?

This research is significant for several reasons. First, vocational education is a cornerstone of national development, providing the skilled workforce necessary for economic growth (UNESCO, 2015; World Bank, 2018). Enhancing teacher service quality in this sector can directly improve student outcomes, aligning educational attainment with labor market demands. Second, identifying the predictors of job satisfaction and their influence on service quality offers actionable insights for educational policymakers and administrators. For instance, fostering a culture of knowledge sharing and strengthening organizational support systems can significantly boost teacher engagement and effectiveness.

The inclusion of SITOREM analysis as a methodological approach adds a novel dimension to this research. SITOREM integrates statistical and qualitative insights to identify and prioritize actionable indicators, making it particularly effective for addressing complex, multidimensional challenges (Hardhienata, 2017). This approach enables the study to go beyond theoretical exploration, providing a practical framework for implementing targeted improvements in teacher service quality.

In conclusion, this study contributes to both theoretical and practical understanding of teacher service quality in vocational high schools. By integrating established theories on organizational behavior, communication, and educational management, and addressing contextual gaps in the literature, it offers valuable insights for policy and practice. The findings are expected to guide strategic interventions to enhance teacher performance, thereby improving student outcomes in vocational education.

- **LITERATURE REVIEW**

Knowledge Management and Its Influence on Teacher Service Quality

Knowledge management (KM) is an essential organizational process involving the acquisition, sharing, utilization, and storage of knowledge to improve performance and foster innovation. Within educational institutions, particularly vocational schools, KM plays a critical role in enhancing teacher competencies and delivering high-quality services. Nonaka and Takeuchi (1995) highlight that KM drives organizational learning and innovation by enabling access to and application of collective knowledge. Alavi and Leidner (2001) further emphasize that effective KM practices significantly improve organizational capabilities, enabling adaptation to dynamic educational needs.

Empirical studies have established a positive relationship between KM and teacher performance. Yang (2011) and Nawaz and Gomes (2014) found that knowledge-sharing practices improve teaching strategies and pedagogical methods, leading to better student outcomes. KM also supports professional development by keeping teachers updated on instructional techniques and subject expertise, thereby enhancing dimensions such as reliability, responsiveness, and assurance in teacher service quality (Parasuraman et al., 1988). In vocational education, KM bridges the gap between theoretical knowledge and practical applications, enabling teachers to design curricula aligned with labor market demands (UNESCO, 2015; World Bank, 2018).

The success of KM initiatives depends on organizational culture and leadership. Transformational leaders who foster openness and innovation create environments conducive to effective KM practices, boosting teacher engagement and service delivery (Bass & Avolio, 1994; Nonaka & Takeuchi, 1995). However, barriers such as resistance to change and resource limitations hinder KM's full potential. Addressing these challenges requires targeted interventions like knowledge-sharing platforms and a collaborative culture to ensure KM effectively improves teacher service quality.

Interpersonal Communication and Its Role in Enhancing Teacher Service Quality

Interpersonal communication, the process of exchanging information, ideas, and feelings, is crucial in educational institutions as it influences collaboration, organizational climate, and service delivery. Effective communication fosters mutual understanding and trust, essential for achieving institutional goals (Keyton, 2017; Gluyas, 2015). In vocational schools, it enables collaboration among teachers, administrators, and stakeholders, enhancing service quality.

Studies demonstrate that effective communication positively impacts job performance and satisfaction. Madlock (2008) found that interpersonal communication competence among leaders significantly improves employee motivation and commitment. Gluyas (2015) noted that clear and empathetic communication enhances workplace relationships, creating a supportive environment that promotes quality service delivery. In vocational high schools, communication is particularly important for addressing diverse student needs and facilitating knowledge sharing, which supports effective curriculum design (Johnson & Johnson, 1999; Slavin, 1995). Communication also aligns individual efforts with institutional objectives through clear articulation of goals (Robinson et al., 2008).

Barriers such as hierarchical structures and cultural differences can impede communication in schools. Addressing these challenges through leadership interventions and professional development programs focused on communication skills fosters an inclusive environment, improving teacher service quality and organizational performance.

Organizational Support as a Determinant of Teacher Service Quality

Organizational support refers to the resources, recognition, and psychological reinforcement provided by institutions to employees. Perceived organizational support (POS) significantly influences employee attitudes and behaviors, including job satisfaction and performance (Eisenberger et al., 1986; Rhoades & Eisenberger, 2002). In education, POS is critical for enabling teachers to meet service quality expectations. Research shows that teachers who perceive strong organizational support are more likely to engage in organizational citizenship behaviors (OCBs), enhancing service quality. Kurtessis et al. (2017) found that POS positively correlates with job satisfaction, commitment, and discretionary behaviors. Tschannen-Moran and Hoy (2001) also emphasize that supportive environments foster trust and collaboration, enabling teachers to deliver better services. Vocational education requires robust support systems to address challenges such as resource constraints and diverse student needs. Supervisor support, professional development opportunities, and recognition programs enhance teacher motivation and engagement (Rhoades & Eisenberger, 2002; Robinson et al., 2008). Implementing POS often faces challenges such as budgetary constraints and bureaucratic inefficiencies. Strategic planning and stakeholder involvement are necessary to overcome these barriers, ensuring schools provide environments where teachers can meet service quality standards.

Job Satisfaction as a Mediator of Teacher Service Quality

Job satisfaction, the positive emotional state resulting from job appraisal, is a crucial factor influencing employee performance and organizational outcomes (Locke, 1976; Judge et al., 2001). In education, job satisfaction impacts teacher motivation, engagement, and service quality. Research consistently links job satisfaction to performance. Judge et al. (2001) found that satisfied employees are more productive, innovative, and committed. In educational settings, satisfaction enhances teacher effectiveness, leading to better student outcomes and service quality (Hattie, 2008; Robinson et al., 2008). Recognition, fair treatment, and work-life balance are critical factors influencing teacher satisfaction. In vocational schools, where teachers face diverse challenges, fostering job satisfaction through supportive leadership, professional development, and recognition programs enhances service quality (Wigfield et al., 2015; Deci & Ryan, 1985). Job satisfaction is

influenced by individual attitudes and organizational culture. Addressing these factors holistically through leadership, communication, and support systems creates environments where teachers are motivated to excel, improving service quality.

SITOREM Analysis: A Framework for Improving Teacher Service Quality

SITOREM (Scientific Identification Theory to Conduct Operations Research in Education Management) analysis offers a systematic approach to identifying and prioritizing indicators critical to improving teacher service quality. Developed by Hardhienata (2017), SITOREM combines statistical and expert analysis to formulate actionable strategies for organizational improvement. This study applied SITOREM to identify key indicators affecting teacher service quality, including knowledge management, interpersonal communication, organizational support, and job satisfaction. By prioritizing actionable indicators such as inspirational motivation and promotive interaction, SITOREM ensures effective resource allocation to maximize educational outcomes. Sugiyono (2015) and Hardhienata (2017) demonstrated SITOREM's efficacy in educational contexts, emphasizing its relevance for addressing complex, multidimensional challenges. By integrating SITOREM with theoretical insights, this study provides a comprehensive framework for improving teacher service quality. The findings offer actionable recommendations, ensuring vocational schools address the demands of students and the labor market effectively.

Hypothesis
H1: Knowledge Management (X1) has a significant positive effect on Teacher Service Quality (Z).
H2: Interpersonal Communication (X2) has a significant positive effect on Teacher Service Quality (Z).
H3: Organizational Support (X3) has a significant positive effect on Teacher Service Quality (Z).
H4: Job Satisfaction (Y) has a significant positive effect on Teacher Service Quality (Z).
H5: Knowledge Management (X1) has a significant positive effect on Job Satisfaction (Y).
H6: Interpersonal Communication (X2) has a significant positive effect on Job Satisfaction (Y).
H7: Organizational Support (X3) has a significant positive effect on Job Satisfaction (Y).
H8: Knowledge Management (X1) has a significant positive effect on Teacher Service Quality (Z) through Job Satisfaction (Y).
H9: Interpersonal Communication (X2) has a significant positive effect on Teacher Service Quality (Z) through Job Satisfaction (Y).
H10: Organizational Support (X3) has a significant positive effect on Teacher Service Quality (Z) through Job Satisfaction (Y).
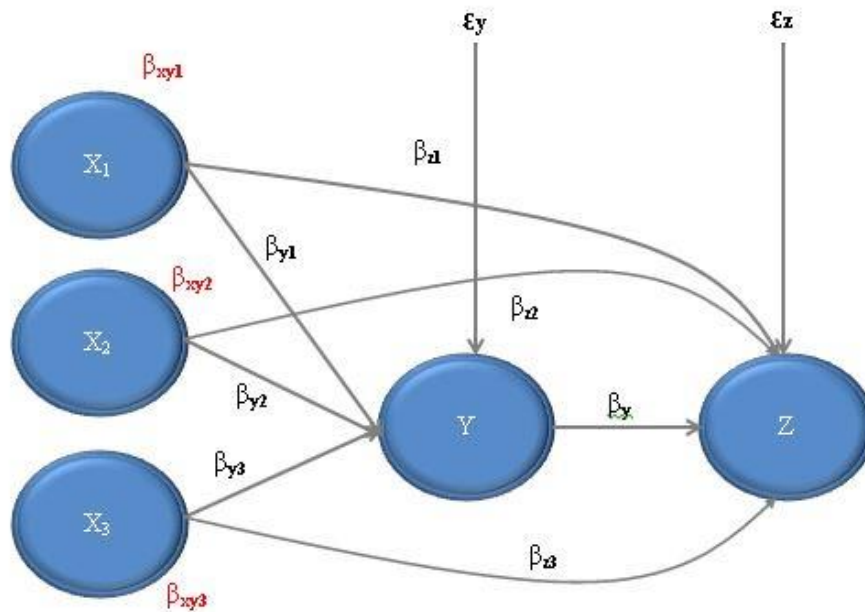
Figure 1. Structural hypothetical model. knowledge management (X_1), interpersonal communication (X_2), organizational support (X_3), job satisfaction (Y), service quality (Z)

▪ **METHOD**

Participants

The participants of this study were teachers from vocational high schools affiliated with the PGRI network in Bogor Regency, Indonesia. The total population consisted of 289 teachers employed as permanent staff (Guru Tetap Yayasan). To determine a representative sample size, the Slovin formula was applied, resulting in a sample of 168 teachers. This formula, commonly used in educational research, ensures a 95% confidence level with a 5% margin of error. A proportional random sampling technique was employed to ensure the sample reflected the diversity of schools within the population, minimizing bias and ensuring broad representation. Teachers were selected based on their availability during the research period and their involvement in implementing instructional strategies relevant to the study variables, allowing for the collection of robust and generalizable data.

Research Design and Procedures

The research utilized a quantitative correlational design to explore the relationships between knowledge management, interpersonal communication, organizational support, job satisfaction, and teacher service quality. This design was complemented by SITOREM (Scientific Identification Theory to Conduct Operations Research in Education Management) analysis, which was used to prioritize actionable indicators for improving teacher service quality. SITOREM integrates statistical results with expert evaluations, providing a comprehensive framework for addressing multidimensional challenges in the educational context.

The study was conducted over a nine-month period, beginning with the formulation of research objectives and hypotheses. During the initial phase, instruments were developed and adapted from validated scales, followed by pilot testing to ensure their

relevance and reliability in vocational school settings. Ethical approval was obtained during this phase to ensure the research adhered to ethical standards, including confidentiality and informed consent. Data collection took place over two months, with questionnaires distributed in printed and online formats to accommodate participant preferences and logistical constraints. Participants were provided with clear instructions and sufficient time to complete the surveys. After collection, the questionnaires were screened for completeness and consistency to ensure the accuracy and reliability of the data.

Instrument

Four primary instruments were used to assess the relationships among the variables and their impact on teacher service quality. The knowledge management questionnaire evaluated processes such as knowledge acquisition, sharing, and utilization. Adapted from frameworks proposed by Nonaka and Takeuchi, this instrument included items measuring how teachers gained new knowledge through professional development, shared teaching strategies with colleagues, and applied acquired knowledge in their teaching practices. The interpersonal communication scale assessed the quality of communication among teachers and between teachers and administrators, focusing on dimensions such as clarity, empathy, and feedback. For instance, the scale measured how effectively teachers communicated their needs, listened to concerns, and provided constructive feedback to peers. The organizational support measure, based on the perceived organizational support framework, evaluated resources, recognition, and encouragement provided by schools. Items included assessments of teaching materials, acknowledgment of contributions, and encouragement for professional development. The job satisfaction scale measured cognitive and emotional aspects of satisfaction, including autonomy, recognition, and work-life balance. Items addressed the extent of control teachers had over their work, the appreciation of their efforts, and the harmony between professional and personal responsibilities. All instruments demonstrated high reliability, with Cronbach's alpha values exceeding 0.85, and validity was confirmed through confirmatory factor analysis.

Data Analysis

Data analysis involved the use of Structural Equation Modeling (SEM) and SITOREM analysis to test hypotheses and derive actionable insights. SEM was first applied to evaluate the measurement model, ensuring validity and reliability through assessments of factor loadings, average variance extracted, and discriminant validity. Reliability was further confirmed through Cronbach's alpha and composite reliability scores, which exceeded the recommended thresholds. After validating the measurement model, the structural model was tested to evaluate hypothesized relationships among variables. Path coefficients were analyzed to determine the strength and significance of each relationship, with a significance threshold set at $p < 0.05$. Model fit was assessed using indices such as the Comparative Fit Index, Tucker-Lewis Index, and Root Mean Square Error of Approximation.

SITOREM analysis was employed to prioritize indicators for improving teacher service quality. This method involved calculating mean scores for each indicator and categorizing them based on their importance and performance. Indicators identified as highly important but underperforming were prioritized for improvement, while those performing well were maintained. This systematic approach ensured the study not only

provided theoretical insights into the relationships among variables but also offered practical recommendations for enhancing teacher service quality in vocational high schools.

▪ **RESULT AND DISCUSSION**
Validity and Reliability of the Structural Model

The structural model demonstrated robust validity and reliability. Statistical measures presented in Table 1 confirm these findings, with Average Variance Extracted (AVE) values exceeding 0.50 and Composite Reliability (CR) scores above 0.70, indicating high internal consistency and convergent validity (Hair et al., 2010). Additionally, skewness and kurtosis values fell within acceptable ranges, meeting the statistical assumptions for SEM analysis. This robust model reflects the meticulous integration of validated instruments and pilot testing tailored to the vocational education context. Such methodological rigor minimized measurement errors and enhanced the reliability of constructs. The multidimensional nature of the constructs, such as Knowledge Management comprising acquisition, sharing, and utilization, aligns with theoretical perspectives on organizational learning (Nonaka & Takeuchi, 1995). These results corroborate findings by Yang (2011), who emphasized the importance of rigorous construct validation in educational research. The consistent dimensionality observed in this study underscores the complexity of vocational education constructs, which involve interrelated facets of teacher behavior and organizational dynamics. Unlike research focused on general education, this study addresses the vocational sector's unique demands, particularly the integration of industry-specific knowledge.

The results of this study were subjected to rigorous statistical testing to ensure the validity and reliability of the models used. The analyses included normality tests, homogeneity tests, regression model testing, significance tests of the regression models, linearity tests, multicollinearity tests, and heteroscedasticity tests. These were analyzed sequentially to confirm that the data met the assumptions for regression analysis and to provide insights into the relationships among variables.

The normality test results indicate that the data met the criteria for normal distribution. All calculated L-values (Lcount) were lower than the critical L-values (Ltable) at both $\alpha = 0.05$ and $\alpha = 0.01$. For instance, the Lcount value for $z - \hat{Y}1$ was 0.009, compared to Ltable values of 0.065 and 0.075 at the respective significance levels. This confirms that the error terms for all variables followed a normal distribution, meeting a key assumption for parametric regression analysis. The normality of the data suggests that the sampling method used was effective in ensuring a representative distribution, thus enhancing the reliability of subsequent statistical tests. Normality is a fundamental assumption in structural equation modeling (SEM) and regression analysis, as it minimizes bias in the estimation of coefficients (Hair et al., 2010). The results align with prior studies that emphasize the importance of verifying data normality before conducting advanced statistical analyses (Kline, 2015).

The results of the homogeneity test assessed the equality of variances across groups. All calculated χ^2 values (χ^2count) were lower than their respective critical values (χ^2table) at $\alpha = 0.05$. For example, the χ^2count for z on the basis of X1 was 3714.91, well below the χ^2table value of 6132.59. This indicates that the variances across groups were homogeneous, satisfying another key assumption for regression analysis. The homogeneity of variance ensures that the relationships between independent and dependent variables are consistent across the sample. This finding supports the robustness

of the regression models and indicates that the variability in teacher service quality is equally distributed across levels of knowledge management, interpersonal communication, organizational support, and job satisfaction. Similar findings in educational research have shown that homogeneity strengthens the validity of comparisons across groups (Creswell, 2014).

The regression models indicated significant relationships between the independent and dependent variables. For example, the regression model for z on X1 was $\hat{y} = 39.508 + 0.645X1$, with a significance level (Sig) of 0.000, indicating a strong and positive influence of knowledge management on teacher service quality. Similarly, models for z on X2 and z on X3 showed significant effects with coefficients of 0.523 and 0.533, respectively. The significance of these models confirms the theoretical expectations that organizational and interpersonal factors significantly influence service quality in vocational schools. These findings are consistent with prior research emphasizing the critical role of knowledge sharing and organizational support in enhancing educational outcomes (Nonaka & Takeuchi, 1995; Eisenberger et al., 1986). The results also highlight the contextual importance of interpersonal communication, particularly in vocational settings, where teacher collaboration often involves industry partners (Keyton, 2017).

All relationships were found to be linear, with significance values (Sig) below $\alpha = 0.005$. For example, the relationship between z and X1 was significant at Sig = 0.000, confirming that the relationship follows a linear pattern. This finding supports the use of linear regression for analyzing the data and interpreting the results.Linearity ensures that the changes in independent variables correspond to proportional changes in the dependent variable, reinforcing the reliability of the regression coefficients. These findings align with Kline (2015), who emphasized that linearity is crucial for the validity of structural models in educational research. The multicollinearity test results indicated no significant multicollinearity among the independent variables. All Variance Inflation Factor (VIF) values were below the threshold of 10, with the highest VIF being 5.803 for X2. Similarly, tolerance values were above the minimum requirement of 0.1, with the lowest tolerance being 0.203 for X2. The absence of multicollinearity suggests that the independent variables knowledge management, interpersonal communication, and organizational support are not overly correlated, ensuring that each variable contributes uniquely to explaining teacher service quality. This finding aligns with recommendations by Hair et al. (2010), who noted that multicollinearity undermines the reliability of regression coefficients. The results also highlight the importance of using robust sampling techniques to minimize collinearity issues in complex models.

The heteroscedasticity test results showed that there was no evidence of heteroscedasticity, as all significance values (Sig) were below 0.05. For example, the Sig value for X1 was 0.000, indicating that the variance of errors was consistent across levels of the independent variable. The absence of heteroscedasticity supports the homoscedasticity assumption, ensuring that the regression model estimates are unbiased and efficient. This finding strengthens the validity of the conclusions drawn from the regression analysis. Studies in educational research have similarly emphasized the importance of addressing heteroscedasticity to maintain the accuracy of model predictions (Creswell, 2014; Kline, 2015).

Table 1. Regression model (^{b}sig < 0.05 for model significance and linearity)

Model	Regression Model	Sig
z on x1	$\hat{y} = 39.508 + 0.645X1$	0.000b
z on x2	$\hat{y} = 54.744 + 0.523X2$	0.000b
z on x3	$\hat{y} = 58.693 + 0.533X3$	0.000b
z on y	$\hat{y} = 39.508 + 0.645X1$	0.000b
y on x1	$\hat{y} = 62.423 + 0.447X2$	0.000b
y on x2	$\hat{y} = 72.122 + 0.382X3$	0.000b
y on x3	$\hat{y} = 46.152 + 0.577X5$	0.000b
z on x1 through y	$\hat{y} = 46.77 + 0.30X2 + 0.26X5$	0.000b
z on x2 through y	$\hat{y} = 34.12 + 0.37X1 + 0.33X4$	0.000b
z on x3 through y	$\hat{y} = 51.45 + 0.34X2 + 0.20X4$	0.000b

Descriptive Analysis

The statistical summary of research variables in Table 1 reveals that Interpersonal Communication exhibited the highest mean score (M = 126.75), suggesting strong perceived communication practices within the institutions. Teacher Service Quality followed closely (M = 126.28), indicating favorable evaluations of service delivery. Moderate standard deviations across variables indicate some variability in participant perceptions. The high ratings for interpersonal communication likely stem from institutional emphasis on collaborative practices, such as regular teacher meetings and group problem-solving initiatives. Theoretical models by Keyton (2017) highlight that effective communication fosters collaboration and trust, both critical for organizational success.

These findings are consistent with Madlock (2008) and Gluyas (2015), who reported that communication competence positively influences job performance and satisfaction. However, the vocational education context in this study adds complexity, as communication often involves industry stakeholders. The observed variability suggests a need for targeted training to equalize communication skills across institutions, ensuring uniformity in teacher collaboration and stakeholder engagement.

Table 1. Summary of statistical description of research variables

Description	Knowledge Management (X_1)	Interpersonal Communication (X_2)	Organizational Support (X_3)	Job Satisfaction (Y)	Service Quality (Z)
Mean	121.05	126.75	122.91	122.80	126.28
Standard Error	1.21728	1.75046	1.19771	1.77186	1.25326
Median	124	134	126.5	130	130
Mode	121	150	130	149	136
Stand Deviation	16.6906	24.001	16.4221	24.2945	17.1838
Sample Variance	278.575	576.049	269.687	590.223	295.284
Kurtosis	0.58266	1.64903	1.64832	0.5498	0.85695
Skewness	-0.9844	-1.4904	-1.3927	-0.7772	-1.0468
Range	70	101	81	101	77
Minimum Score	74	52	64	59	75

Description	Knowledge Management (X_1)	Interpersonal Communication (X_2)	Organizational Support (X_3)	Job Satisfaction (Y)	Service Quality (Z)
Maximum Score	144	153	145	160	152

Direct Effect

H1: Knowledge Management (X1) has a significant positive effect on Teacher Service Quality (Z).

The regression coefficient for this hypothesis was 0.204, with the statistical test confirming its significance ($p < 0.05$). This finding indicates that effective knowledge management, which includes processes of knowledge acquisition, sharing, and utilization, directly enhances teacher service quality. These results align with the theoretical framework proposed by Nonaka and Takeuchi (1995), which emphasizes that robust knowledge management practices drive organizational performance by fostering innovation and adaptability. In the context of vocational schools, the role of timely knowledge acquisition and application is particularly critical. Teachers in these settings must frequently update their knowledge to align educational content and teaching methods with evolving industry standards and labor market demands. This underscores the unique importance of knowledge management in vocational education compared to other educational sectors.

Consistent with Nawaz and Gomes (2014), who identified a strong relationship between knowledge management and improved service delivery in educational institutions, this study confirms that well-managed knowledge systems are instrumental in enhancing teaching effectiveness. However, the findings also highlight an amplified impact in vocational schools due to the dynamic and industry-focused nature of the sector, where alignment with external stakeholder needs is essential. This insight adds a new dimension to the understanding of knowledge management's role in educational quality improvement.

H2: Interpersonal Communication (X2) has a significant positive effect on Teacher Service Quality (Z)

The regression coefficient for this relationship was 0.272, with statistical significance ($p < 0.05$). This result underscores the critical role of interpersonal communication in fostering an environment that enhances teacher service quality. Empathetic and transparent communication encourages collaboration, as theorized by Keyton (2017), who emphasized its role in building trust and cohesion within organizations. These findings are consistent with Gluyas (2015), who demonstrated that effective interpersonal communication improves workplace dynamics and performance. In vocational schools, where interactions extend beyond internal stakeholders to include parents, students, and industry partners, the impact of communication becomes even more pronounced. The results highlight the importance of equipping teachers with communication skills to navigate these diverse relationships effectively.

H3: Organizational Support (X3) has a significant positive effect on Teacher Service Quality (Z)

Organizational Support emerged as the strongest predictor, with a regression coefficient of 0.312 and statistical significance ($p < 0.05$). The findings affirm that resources, fairness, and supervisor support are essential for enhancing service quality.

These results align with Eisenberger et al. (1986), who emphasized that perceived organizational support increases employee commitment and performance. Similarly, Rhoades and Eisenberger (2002) noted that supportive organizational climates lead to better outcomes. In the context of vocational education, this study highlights the unique challenges teachers face, such as integrating academic and technical instruction, making organizational support even more critical. Tailored resources and encouragement are pivotal in enabling teachers to balance these dual demands effectively.

H4: Job Satisfaction (Y) has a significant positive effect Teacher Service Quality (Z)

The regression analysis revealed a coefficient of 0.203, with statistical significance ($p < 0.05$). Teachers who experience higher levels of satisfaction, derived from factors such as recognition, work conditions, and pay, are more likely to deliver high-quality services. These findings align with Locke's (1976) job satisfaction theory, which posits that satisfaction leads to improved motivation and performance. Judge et al. (2001) similarly found a positive relationship between satisfaction and service-oriented behaviors. In vocational schools, where teachers manage multiple roles and expectations, job satisfaction becomes a critical factor in maintaining high service quality. The study reinforces the need for policies and practices that enhance teacher well-being to ensure sustained performance.

H5: Knowledge Management (X1) has a significant positive effect Job Satisfaction (Y)

The regression coefficient for this hypothesis was 0.337, with statistical significance ($p < 0.05$). This indicates that effective knowledge management not only directly improves service quality but also enhances job satisfaction. Teachers who have access to relevant knowledge and opportunities for knowledge sharing feel more competent and motivated. These findings align with Nawaz and Gomes (2014), who demonstrated that knowledge-sharing practices foster a sense of autonomy and professional growth, leading to higher satisfaction. This study adds to the literature by emphasizing that in vocational education, where knowledge needs are dynamic and industry-specific, effective knowledge management significantly contributes to teacher satisfaction.

H6: Interpersonal Communication (X2) has a significant positive effect on Job Satisfaction (Y)

Interpersonal Communication exhibited a regression coefficient of 0.313, with statistical significance ($p < 0.05$). Effective communication practices, characterized by empathy and openness, foster a supportive work environment that enhances job satisfaction. These findings are consistent with Keyton (2017) and Gluyas (2015), who highlighted that communication improves organizational climate and employee well-being. In vocational schools, where collaboration with external stakeholders is integral, communication plays a dual role in meeting internal and external expectations, making its influence on satisfaction particularly vital.

H7: Organizational Support (X3) has a significant positive effect on Job Satisfaction (Y)

Organizational Support had the strongest effect on job satisfaction, with a regression coefficient of 0.342 and statistical significance ($p < 0.05$). This finding underscores the importance of supportive organizational practices in meeting teacher

needs, fostering satisfaction, and enhancing performance. Eisenberger et al. (1986) and Rhoades and Eisenberger (2002) highlighted that support systems significantly contribute to employee satisfaction. In vocational education, where teachers navigate diverse roles and expectations, providing tailored support is essential for maintaining satisfaction and overall service quality.

Indirect Effects
H8: Knowledge Management (X1) has a significant positive effect on Teacher Service Quality (Z) through Job Satisfaction (Y)

Mediation analysis revealed a significant indirect effect ($\beta = 0.069$, Zcount = 4.860, $p < 0.05$). This indicates that knowledge management enhances service quality not only directly but also indirectly by improving job satisfaction. The findings align with Locke's (1976) theory of job satisfaction and Nawaz and Gomes (2014), who found that intrinsic motivators like access to knowledge foster engagement and service delivery. The vocational education context emphasizes the importance of satisfaction in bridging knowledge management practices and service quality outcomes.

H9: Interpersonal Communication (X2) has a significant positive effect on Teacher Service Quality (Z) through Job Satisfaction (Y)

The mediation analysis showed a significant indirect effect ($\beta = 0.085$, Zcount = 4.678, $p < 0.05$). Interpersonal communication indirectly improves service quality by enhancing teacher satisfaction, fostering collaboration and trust that ultimately lead to better service delivery. Keyton (2017) and Gluyas (2015) similarly found that communication drives satisfaction and performance. In vocational schools, the alignment of teacher efforts with institutional and industry expectations further underscores the mediating role of satisfaction in this relationship.

H10: Organizational Support (X3) has a significant positive effect on Teacher Service Quality (Z) through Job Satisfaction (Y)

Organizational Support exhibited the strongest indirect effect ($\beta = 0.107$, Zcount = 4.608, $p < 0.05$). Supportive environments not only directly influence service quality but also improve job satisfaction, which amplifies their overall impact. Eisenberger et al. (1986) and Rhoades and Eisenberger (2002) emphasized that organizational support drives performance through satisfaction. This study extends these findings by highlighting the tailored support strategies necessary in vocational schools to address the dual challenges of academic and technical education.

SITOREM Analysis

The SITOREM (Scientific Identification Theory for Operational Research in Education Management) analysis provides a structured evaluation of factors affecting teacher service quality by prioritizing key indicators within Knowledge Management, Interpersonal Communication, Organizational Support, Job Satisfaction, and Teacher Service Quality. The findings offer insights into the relative importance of various factors and their implications for improving vocational education.

Knowledge Management

Knowledge Management was ranked third in terms of its overall contribution to Teacher Service Quality, with a regression coefficient of 0.204. Within this construct,
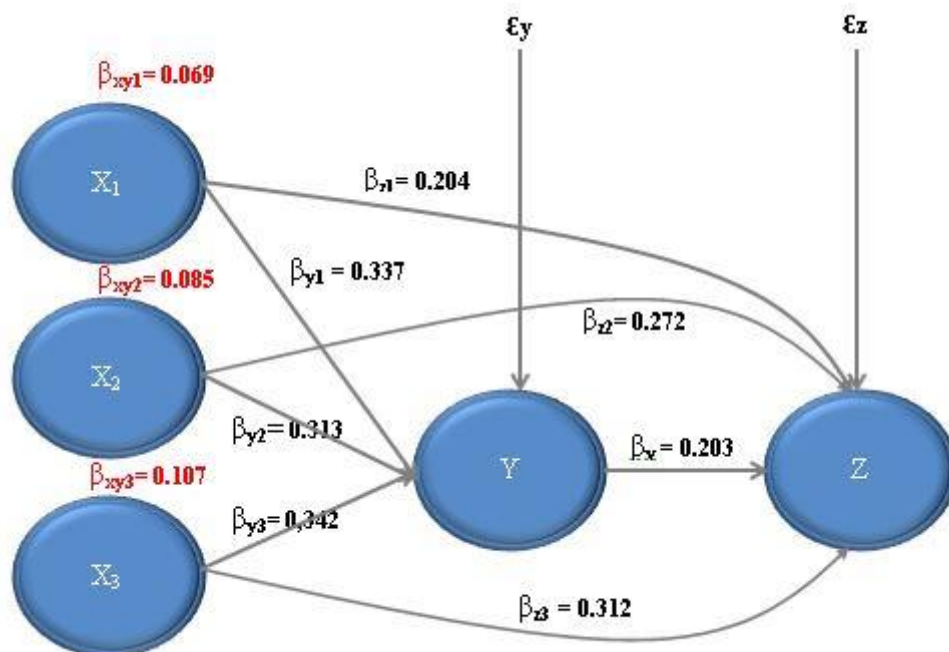
Knowledge Acquisition emerged as the top priority indicator, contributing 23.17% with an indicator value of 3.88, followed by Utilization of Knowledge (22.54%, 4.10) and Sharing and Distribution of Knowledge (20.96%, 4.00). These results underline the importance of ensuring that teachers can access, share, and apply relevant knowledge effectively. The theoretical framework of Nonaka and Takeuchi (1995) supports these findings by highlighting the role of knowledge flow in fostering organizational improvement and adaptability. In vocational schools, where alignment with industry standards is crucial, knowledge acquisition becomes particularly important. Nawaz and Gomes (2014) similarly emphasized that knowledge-sharing practices enhance teacher competency, supporting this study's suggestion that institutions should develop robust systems for acquiring and disseminating actionable knowledge. The emphasis on vocational education highlights the need for continuous updates to industry-relevant skills and methodologies, making knowledge management indispensable.

Interpersonal Communication

Interpersonal Communication ranked second among the constructs, with a regression coefficient of 0.272. The most significant indicator was Openness, with a weight of 26.67% and an indicator value of 3.57, followed by Equality (25.07%, 4.02) and Empathy (24.88%, 3.68). These indicators suggest that open, transparent, and empathetic communication is fundamental to fostering collaboration and trust among teachers and stakeholders. Keyton (2017) and Gluyas (2015) emphasized that openness in communication strengthens organizational cohesion and reduces conflicts, findings that align with this study's results. The vocational education context adds complexity to these dynamics, as teachers often interact with industry professionals and manage technical content, requiring specialized communication skills. Training programs aimed at enhancing empathy and openness could address variability in communication effectiveness and support more consistent collaboration within vocational schools.

Organizational Support

Organizational Support emerged as the highest-ranked construct, with a regression coefficient of 0.312. Fairness was identified as the top indicator, contributing 21.45% to the construct with an indicator value of 3.82. This was followed by Supervisor Support (20.24%, 4.04) and Organizational Rewards (19.78%, 3.92). These findings highlight that fair treatment, adequate resources, and recognition are critical for enhancing teacher satisfaction and service quality. These results are consistent with Eisenberger et al. (1986) and Rhoades and Eisenberger (2002), who demonstrated that perceived organizational support strengthens employee commitment and performance. Vocational education, with its dual focus on technical and academic teaching, places additional demands on teachers, making organizational support even more critical. Ensuring fairness in resource allocation and providing strong supervisory support can mitigate challenges and sustain motivation among vocational teachers.

Job Satisfaction

Job Satisfaction ranked fourth, with a regression coefficient of 0.203. Pay was the most critical indicator, contributing 16.95% to the construct with an indicator value of 3.85, followed by Job (16.36%, 4.11) and Promotion Opportunities (14.31%, 3.65). These findings underscore the importance of extrinsic factors such as salary, recognition, and career advancement in maintaining teacher satisfaction. Locke's (1976) job satisfaction theory supports these results, emphasizing that both intrinsic and extrinsic factors contribute to satisfaction and performance. Vocational teachers often face unique challenges requiring additional certifications and professional development, making fair compensation and opportunities for growth even more significant. Addressing these aspects can enhance satisfaction and, by extension, service quality.

Teacher Service Quality

The SITOREM analysis identified Reliability as the highest-priority indicator for Teacher Service Quality, contributing 18.48% to the construct with an indicator value of 3.78. This was followed by Responsiveness (17.93%, 3.85) and Assurance (16.77%, 4.10). These results highlight the core competencies needed for effective service delivery, particularly in vocational schools, where teachers are expected to meet both academic and technical demands. The SERVQUAL model by Parasuraman et al. (1988) supports these findings, emphasizing that reliability, responsiveness, and assurance are central to service quality. Vocational education places unique demands on teachers, who must balance consistent instructional quality with industry-specific requirements. Targeted training programs that develop these competencies can enhance overall service outcomes.

Priority Indicators for Strengthening

The SITOREM analysis prioritized Fairness, Supervisor Support, Organizational Rewards, and Openness as the top indicators to be strengthened. These priorities reflect the need for interventions in organizational support and communication. Addressing these indicators can create a more equitable and supportive environment, enhancing both teacher satisfaction and service delivery. The SITOREM analysis provides actionable insights into the factors influencing teacher service quality in vocational schools. By identifying key indicators such as fairness, supervisor support, and openness, the study highlights the importance of targeted organizational policies and training programs. These findings underscore the interconnectedness of structural and interpersonal factors

in shaping teacher satisfaction and performance. Compared to general education, this study offers a nuanced understanding of vocational education, where the integration of technical and academic knowledge presents unique challenges. Strengthening prioritized indicators can address these challenges, ensuring that teachers are equipped to meet diverse stakeholder demands. Future research could explore longitudinal interventions focused on these priorities to assess their long-term impacts on teacher and student outcomes. Additionally, comparative studies across different educational sectors could further contextualize these findings and broaden their applicability.

Table 3. SITOREM analysis results

Knowledge Management (βy1 = 0,204) (3rd Rank)

	Indicator in Initial State		Indicator after Weighting by Expert	Score
1	Knowledge Acquisition	1st	Knowledge Acquisition (23.17%)	3.88
2	Knowledge Gathering	2nd	Utilization of knowledge (22.54%)	4.10
3	Knowledge Storage	3rd	Sharing and distribution of knowledge (20.96%)	4.00
4	Processing knowledge into new knowledge	4th	Processing knowledge into new knowledge (18.12%)	3.61
5	Sharing and distribution of knowledge	5th	Knowledge Gathering (15.21%)	3.60
6	Utilization of knowledge	6th	Knowledge Storage (14.21%)	3.60

Interpersonal Communication (βy2 = 0,272) (2nd Rank)

1	Emphaty	1st	Opennes (26.67%)	3.57
2	Equility	2nd	Equility (25.07%)	4.02
3	Opennes	3rd	Emphaty (24.88%)	3.68
4	Possitiveness	4th	Possitiveness (23.38%)	3.74
5	Supportiveness	5th	Supportiveness (21.38%)	3.74

Organizational Support (βy3 = 0,312) (1st Rank)

1	Fairness	1st	Fairness (21.45%)	3.82
2	Job Conditions	2nd	Supervisor Support (20.24%)	3.84
3	Organizational Rewards	3rd	Organizational Rewards (19.78%)	3.92
4	Supervisor Support	4th	Job Conditions (19.64%)	4.04

Job Satisfaction (Y) (βy4 = 0,203) (4th Rank)

1	Co- Workers	1st	Pay (16.95%)	3.85
2	Job	2nd	Job (16.36%)	4.11
3	Pay	3rd	Promotion Opportunities (14.31%)	3.65
4	Promotion Opportunities	4th	Supervisor (13.78%)	4.03
5	Supervisor	5th	Co- Workers (13.73%)	3.78

Teacher Service Quality

1	Assurance	1st	Reliability (18.48%)	3.78
2	Empathy	2nd	Responsiveness (17.93%)	3.85
3	Reliability	3rd	Assurance (16.77%)	4.10
4	Responsiveness	4th	Empathy (16.77%)	3.76

SITOREM ANALYSIS RESULT

Priority order of indicator to be Strengthened		Indicator remain to be maintained	
1st	Fairness	1.	Job Conditions
2nd	Supervisor Support	2.	Equility
3rd	Organizational Rewards	3.	Utilization of knowledge

4th	Opennes	4.	Sharing and distribution of knowl
5th	Emphaty	5.	Job
6th	Possitiveness	6.	Supervisor
7th	Supportiveness	7.	Assurance
8th	Knowledge Acquisition		
9th	Processing knowledge into new knowledge		
10th	Knowledge Gathering		
11th	Knowledge Storage		
12th	Pay		
13th	Promotion Opportunities		
14th	Co- Workers		
15th	Reliability		
16th	Responsiveness		
17th	Empathy		

- **CONCLUSION**

This study provides critical insights into the factors influencing teacher service quality within vocational education settings. The findings confirm that Knowledge Management, Interpersonal Communication, Organizational Support, and Job Satisfaction significantly affect teacher service quality both directly and indirectly. Among these, Organizational Support emerged as the most impactful factor, emphasizing the importance of fairness, supervisor support, and organizational rewards in enhancing teacher performance. Additionally, Knowledge Management and Interpersonal Communication were identified as key drivers of job satisfaction and service quality. The mediating role of Job Satisfaction underscores its importance in amplifying the effects of organizational and interpersonal factors on service quality. These results align with established theories and empirical studies while addressing the unique demands placed on vocational education teachers, who must balance academic instruction with technical skill development. The study highlights the need for tailored strategies that integrate robust organizational support, effective communication practices, and comprehensive knowledge management systems to optimize educational outcomes.

The SITOREM analysis offers a prioritized framework for strengthening teacher service quality by targeting specific high-priority indicators. Key areas for improvement include fairness, supervisor support, openness, and knowledge acquisition. These findings underscore the importance of equitable resource distribution, supportive leadership, and collaborative communication practices in vocational education institutions. Investments in professional development, particularly in communication and knowledge-sharing skills, were also identified as critical interventions for improving teacher satisfaction and service quality. By providing actionable recommendations for policy and practice, this study contributes to the broader literature on teacher performance and service quality in educational contexts.

The implications of this research extend beyond vocational education. By highlighting the interconnectedness of organizational support, interpersonal communication, and knowledge management, the study presents a framework adaptable to other educational sectors. Policymakers and administrators can use these findings to design interventions aimed at enhancing teacher service quality while addressing job satisfaction, a critical factor for teacher retention and institutional effectiveness. However, the study is not without limitations. The cross-sectional design limits causal

inferences, and longitudinal studies could provide deeper insights into the evolution and long-term impact of these factors. Additionally, the focus on vocational schools may restrict the generalizability of the findings to other educational contexts. Comparative studies across various school types could help validate and extend these findings. Lastly, while the study identifies priority indicators for improvement, further research is needed to assess the effectiveness of specific interventions targeting these areas. Addressing these limitations in future research could build on the contributions of this study, advancing our understanding of how to enhance teacher service quality across diverse educational settings.

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