

Leadership and Implementation of Total Quality Management (TQM) on Employee Performance with the Mediating Role of Motivation

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ABSTRACT

Purpose: This study aims to examine the effects of leadership and Total Quality Management (TQM) on employee performance, with motivation as a mediating variable, at the Regional Drinking Water Company (Perumda Air Minum) in Makassar City.

Research Method: This research employed a quantitative causal-explanatory approach. The population consisted of 163 permanent employees, and a census sampling technique was applied, in which all employees were selected as respondents. Data were collected via questionnaires and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS software.

Results and Discussion: The findings indicate that leadership has a positive and significant effect on employee performance and employee motivation. TQM also positively and significantly affects employee performance and motivation. Furthermore, motivation has a significant positive effect on employee performance. Motivation was shown to mediate the relationships between leadership and performance, as well as between TQM and performance. These results suggest that effective leadership practices and the consistent implementation of TQM can improve employee motivation, ultimately enhancing organizational performance.

Implications: The organization should strengthen leadership, improve employee engagement, maintain continuous quality improvement, and develop motivational strategies such as rewards, recognition, and career development programs. These actions are expected to enhance employee productivity and service quality.

Keywords: leadership; total quality management; motivation; employee performance; mediation; public service organization.

1. Introduction

Human resource performance has become one of the most decisive factors in achieving organizational sustainability, competitiveness, and service excellence, particularly in public utility organizations. In public sector institutions, employee performance is closely related not only to internal efficiency but also to the quality of services delivered to society. Regional water utility companies, as providers of essential public services, are required to ensure reliable operations, responsive customer service, and



continuous infrastructure improvement. Therefore, strengthening employee performance is a strategic priority for organizations operating in the public water service sector.

The Regional Drinking Water Company (Perumda Air Minum) of Makassar City is a local government-owned enterprise responsible for water treatment, clean water distribution, and customer service management. As an institution directly connected to community welfare, the company is expected to maintain high operational standards and provide professional services. However, the complexity of utility management, increasing customer expectations, service complaints, infrastructure constraints, and administrative demands create substantial pressure on organizational performance. Under these circumstances, employee effectiveness becomes a key determinant of service quality and institutional credibility.

In organizational literature, performance generally refers to the quality and quantity of work employees achieve in carrying out their assigned responsibilities. High-performing employees tend to demonstrate productivity, discipline, accountability, cooperation, and commitment to organizational goals. In contrast, low performance is commonly associated with delays, weak coordination, reduced service quality, absenteeism, and failure to meet operational targets. For public organizations, such consequences can weaken citizen trust and reduce public satisfaction. Among the many antecedents of employee performance, leadership has consistently been recognized as one of the most influential organizational factors. Leadership shapes employee behavior through direction, communication, support, supervision, and decision-making. Effective leaders create clarity of purpose, foster trust, build engagement, and encourage employees to exceed minimum standards. Conversely, weak leadership often results in role ambiguity, low morale, conflict, and declining productivity. In service organizations, leadership becomes even more critical because employees must frequently coordinate across units while responding to customer needs in real time.

Transformational leadership theory suggests that leaders who inspire, intellectually stimulate, and individually consider employees can generate higher motivation and stronger commitment. Transactional leadership, meanwhile, emphasizes performance through rewards, monitoring, and corrective actions. Both perspectives indicate that leadership mechanisms can influence performance, both directly and indirectly, through psychological and behavioral pathways. In practical settings, leaders' ability to balance control, empowerment, and motivation often determines whether organizational targets are achieved.

Another important determinant of organizational effectiveness is Total Quality Management (TQM). TQM is a comprehensive management philosophy focused on continuous improvement, customer satisfaction, employee involvement, evidence-based decision making, and process optimization. Originally developed in manufacturing contexts, TQM has increasingly been adopted in service organizations, including healthcare, education, banking, and public utilities. In water service institutions, TQM principles are particularly relevant because service reliability, complaint resolution, operational efficiency, and customer trust depend heavily on standardized processes and continuous quality enhancement. Previous studies have shown that TQM implementation can improve organizational outcomes through stronger process control, enhanced teamwork, lower service errors, and greater employee accountability. When employees are actively involved in quality improvement initiatives, they tend to feel more valued and responsible for outcomes. This condition may simultaneously improve motivation and performance. However, TQM success often depends on management commitment and leadership consistency, indicating a strong conceptual linkage between leadership and quality management systems.



Motivation is another central variable in explaining employee performance. Motivation reflects the internal and external forces that energize, direct, and sustain employee effort toward organizational goals. Motivated employees usually display persistence, initiative, discipline, and willingness to contribute beyond formal job requirements. Theoretical perspectives such as Maslow's hierarchy of needs, Herzberg's two-factor theory, and expectancy theory all suggest that employee performance is strongly affected by whether work conditions satisfy personal needs and whether effort is perceived as meaningful and rewarded.

In organizational practice, leadership and TQM may not automatically improve performance unless employees are more motivated. Leadership can motivate employees through recognition, empowerment, communication, fairness, and developmental support. Likewise, TQM can increase motivation by creating participative systems, clear standards, a collaborative culture, and opportunities for continuous learning. Therefore, motivation may function as an important mediating mechanism linking organizational practices to performance outcomes. Despite growing interest in leadership, TQM, and performance relationships, several research gaps remain. First, many studies examine leadership or TQM separately, whereas fewer integrate both variables into a single comprehensive framework. Second, empirical evidence from public utility organizations in developing economies remains limited, especially in local water service enterprises. Third, studies often test direct relationships without sufficiently examining the mediating role of motivation. These gaps are important because public organizations differ from private firms in their governance structures, accountability mechanisms, bureaucratic processes, and performance orientations.

The context of Perumda Air Minum Makassar City further strengthens the relevance of this study. Operational reports indicate fluctuations in service complaints, reconnection requests, meter replacement issues, water leakage incidents, and water supply interruptions. Such service dynamics imply the need for stronger internal management systems and higher employee responsiveness. Observational evidence also indicates challenges in discipline, coordination, supervision, and employee responsibility that may be associated with leadership quality, TQM implementation, and motivational conditions. Based on these considerations, this study investigates the effect of leadership and Total Quality Management on employee performance, with motivation as a mediating variable, at Perumda Air Minum Makassar City. Specifically, the study seeks to analyze: (1) the effect of leadership on employee performance; (2) the effect of leadership on motivation; (3) the effect of TQM on employee performance; (4) the effect of TQM on motivation; (5) the effect of motivation on employee performance; and (6) the mediating role of motivation in the relationships between leadership, TQM, and performance.

This research contributes theoretically by integrating leadership theory, quality management perspectives, and motivational mechanisms into a unified explanatory model. Practically, the findings are expected to provide evidence-based recommendations for public utility managers seeking to improve employee productivity and service quality through leadership development, quality management systems, and motivational strategies. For policymakers, the study may also offer insights into how to strengthen governance and public service performance in regional state-owned enterprises.

The remainder of this paper is organized as follows. Section 2 provides a literature review and hypothesis development. Section 3 presents the research method. Section 4 provides empirical results and discussion. Section 5 is the Concluding Remarks and Recommendation.



2. Literature Review and Hypothesis Development

2.1 Literature Review

This study is grounded in organizational behavior and strategic management theories that explain how managerial practices influence employee outcomes. Leadership theory emphasizes the role of leaders in directing, motivating, and coordinating employees toward organizational goals. Total Quality Management (TQM) theory highlights continuous improvement, customer orientation, employee participation, and process excellence as drivers of organizational effectiveness. Motivation theory explains how internal and external forces stimulate employees to exert effort and sustain performance over time. Integrating these perspectives provides a comprehensive framework for explaining employee performance in public service organizations.

Employee performance refers to the level of achievement employees attain in completing tasks in accordance with established standards and responsibilities. Performance is commonly reflected in quality of work, quantity of output, punctuality, commitment, cooperation, and discipline. In public organizations, employee performance is especially important because it directly influences service quality, citizen satisfaction, and organizational legitimacy. From a resource-based perspective, human capital performance is a strategic asset that determines whether organizations can maintain sustainable service delivery. High-performing employees tend to demonstrate initiative, accountability, responsiveness, and problem-solving capabilities, whereas poor performance often leads to inefficiency and customer dissatisfaction.

Leadership is generally defined as an individual's ability to influence others to achieve shared objectives. Effective leadership includes setting direction, communicating expectations, building trust, resolving conflict, and encouraging employee development. Leadership theories commonly distinguish between transformational and transactional approaches. Transformational leadership motivates employees through inspiration, vision, intellectual stimulation, and individualized consideration. Transactional leadership focuses on supervision, performance standards, and reward exchange mechanisms. Both forms may contribute positively to employee outcomes depending on the organizational context. In public service institutions, leadership is critical because employees often operate within bureaucratic structures that require both discipline and adaptive problem-solving. Leaders who are fair, supportive, and performance-oriented can strengthen employee commitment and service behavior.

Total Quality Management is a management philosophy emphasizing continuous improvement across all organizational processes to achieve customer satisfaction and long-term effectiveness. Core TQM principles include customer focus, employee involvement, data-driven decision-making, teamwork, error prevention, and continuous improvement. Although originally developed in manufacturing industries, TQM has become highly relevant in service organizations. In public utilities, such as water companies, TQM can improve complaint handling, service consistency, technical reliability, interdepartmental coordination, and responsiveness to public needs. TQM also creates a quality culture in which employees understand performance standards, participate in improvement initiatives, and take responsibility for service outcomes.

Motivation refers to the forces that initiate, direct, and sustain work-related behavior. It determines the intensity of effort, persistence in overcoming challenges, and willingness to contribute toward organizational goals. Motivation may arise from intrinsic factors such as achievement and



recognition, or extrinsic factors such as compensation, security, and promotion opportunities. Maslow's hierarchy of needs suggests that employees seek fulfillment ranging from physiological security to self-actualization. Herzberg's two-factor theory distinguishes hygiene factors (salary, working conditions, supervision) from motivators (achievement, responsibility, growth). Expectancy theory explains that employees exert effort when they believe it will lead to valued outcomes. These theories indicate that motivated employees are more likely to perform effectively and remain committed to organizational objectives.

2.2 Hypothesis Development

Leadership influences employee performance through direction, supervision, communication, and empowerment. Leaders clarify objectives, allocate resources, monitor progress, and resolve barriers that hinder performance. Transformational leaders can elevate employee confidence and commitment, while transactional leaders can ensure accountability and operational discipline. Prior empirical studies frequently report a positive relationship between leadership and employee performance. In service organizations, leadership effectiveness is often associated with productivity, service responsiveness, and employee accountability.

H1: *Leadership has a positive and significant effect on employee performance.*

Leaders strongly shape employee motivation through recognition, trust, fairness, coaching, and support. Employees are more motivated when leaders communicate meaningfully, appreciate contributions, and create growth opportunities. Conversely, poor leadership may reduce morale and engagement. Transformational leadership theory specifically proposes that inspirational and supportive leadership enhances intrinsic motivation. Employees who feel valued by leaders are more willing to exert discretionary effort.

H2: *Leadership has a positive and significant effect on employee motivation.*

TQM improves performance by reducing inefficiencies, standardizing processes, encouraging teamwork, and focusing attention on service outcomes. Employees working within quality-oriented systems are more likely to understand expectations and perform consistently. In public utilities, TQM practices can improve complaint resolution speed, operational reliability, and cross-functional collaboration. Therefore, TQM is expected to influence individual and organizational performance positively.

H3: *Total Quality Management has a positive and significant effect on employee performance.*

TQM may increase motivation by encouraging participation, empowerment, recognition of improvement efforts, and transparent performance systems. Employees who are involved in decision-making and continuous improvement often experience stronger ownership and engagement. A quality culture also creates clarity and fairness, both of which can reinforce employee motivation.

H4: *Total Quality Management has a positive and significant effect on employee motivation.*

Motivation is one of the most established predictors of employee performance. Highly motivated employees tend to demonstrate persistence, discipline, initiative, and stronger task completion. Motivation determines how much effort employees are willing to invest and how consistently they maintain that effort. In public service settings, motivated employees are more

responsive to citizens, more cooperative with colleagues, and more committed to organizational standards.

H5: *Motivation has a positive and significant effect on employee performance.*

Leadership may influence performance not only directly but also indirectly through motivation. Effective leaders inspire employees, build trust, and recognize effort, thereby increasing motivation. Increased motivation then translates into stronger performance outcomes. Thus, motivation is expected to function as a psychological mechanism linking leadership behavior to employee effectiveness.

H6: *Motivation mediates the positive relationship between leadership and employee performance.*

TQM systems can improve employee performance by increasing motivation through participation, quality awareness, teamwork, and recognition of contributions. Employees who perceive TQM positively are more likely to feel engaged and responsible for service quality. Accordingly, motivation may transmit the effect of TQM practices to higher employee performance.

H7: *Motivation mediates the positive relationship between Total Quality Management and employee performance.*

3. Research Method

This study employed a quantitative research design with a causal-explanatory approach to examine the direct and indirect relationships among leadership, Total Quality Management (TQM), motivation, and employee performance. A quantitative approach was considered appropriate because the study aimed to test hypotheses and measure the magnitude of influence between variables using statistical procedures. The explanatory design was selected to provide empirical evidence regarding causal relationships among the constructs proposed in the conceptual framework.

The research was conducted at the Regional Drinking Water Company (Perumda Air Minum) of Makassar City, Indonesia, a public utility organization responsible for water treatment, distribution, and customer service operations. This organizational context was selected because employee performance is strategically important in ensuring service quality, operational reliability, and public satisfaction. In addition, the company faces managerial and operational challenges that make leadership practices, quality management systems, and employee motivation highly relevant variables for investigation.

The population of this study comprised all permanent employees at Perumda Air Minum Makassar City, totaling 163. Because the population size was relatively manageable, this study employed a census, or saturated, sampling technique in which all members of the population were included as research respondents. Using the full population minimized sampling error and increased the representativeness of the findings.

Primary data were collected through a structured questionnaire distributed to respondents. The questionnaire used closed-ended statements measured on a Likert scale ranging from strongly disagree to agree strongly. The instrument was designed to capture respondents' perceptions regarding leadership, TQM practices, work motivation, and employee performance. Secondary data were also utilized to support the study, including organizational reports, policy documents, and previous literature relevant to the research topic.

Leadership was measured by supervisors' ability to influence, guide, motivate, and support subordinates in achieving organizational goals. The indicators of leadership included charisma,

inspirational motivation, individualized consideration, and intellectual stimulation. Total Quality Management was defined as a systematic managerial approach emphasizing continuous improvement and customer satisfaction, measured by customer focus, continuous improvement, total employee involvement, and fact-based decision-making. Motivation was conceptualized as the internal drive encouraging employees to perform their work, represented by physiological needs, safety needs, social belonging, esteem, and self-actualization. Employee performance was defined as the level of achievement employees demonstrate in fulfilling their responsibilities, measured by work quantity, quality, and commitment.

Prior to hypothesis testing, the measurement instrument was assessed for validity and reliability to ensure consistency and accuracy. Convergent validity was evaluated through outer loading values and Average Variance Extracted (AVE), while internal consistency reliability was examined using Cronbach's alpha and composite reliability. Discriminant validity was also assessed to confirm that each construct was empirically distinct from other constructs. Data analysis was conducted using Partial Least Squares-Structural Equation Modeling (PLS-SEM) with SmartPLS software. PLS-SEM was chosen because it is suitable for predictive causal models involving multiple latent variables, mediation relationships, and relatively moderate sample sizes. The analysis was performed in two stages: evaluation of the measurement model (outer model) and evaluation of the structural model (inner model). The outer model assessed indicator reliability and construct validity, whereas the inner model examined path coefficients, coefficient of determination (R^2), effect sizes, predictive relevance, and hypothesis significance through bootstrapping procedures.

To test the mediating role of motivation, the indirect effects of leadership and TQM on employee performance were examined using bootstrapped confidence intervals. A mediation effect was supported when the indirect path coefficients were statistically significant. This procedure enabled the study to determine whether motivation functioned as an explanatory mechanism through which managerial practices enhanced employee performance. Overall, the selected methodology provides a rigorous empirical framework for understanding how leadership and TQM contribute to employee performance, both directly and indirectly through motivation, in a public utility service organization.

4. Results and Discussion

4.1 Analysis Results

4.1.1 Reliability Testing

The reliability of indicators in PLS for reflective constructs is assessed using the loading factor (correlation between item or component scores and construct scores). Hair et al. (2006) suggested that a commonly used rule of thumb is that a loading factor of 0.40 or higher is considered reliable.

All loading factor values are above 0.40, indicating that the indicators used in this study are reliable and meet the reliability criteria. Internal consistency reliability can also be assessed for each indicator. Internal consistency reliability is assessed by examining the composite reliability of the indicator block measuring the construct. As a rule of thumb, the composite reliability value obtained must be greater than 0.70 (Hair et al., 2014).

Table 2 shows that the composite reliability values for all constructs exceed 0.70, indicating that all constructs in the estimated model meet the criteria for internal consistency. The reliability test was strengthened by using Cronbach's alpha, with a value greater than 0.60 considered acceptable. The



Cronbach's Alpha results show that all constructs are above 0.60, thus meeting the Cronbach's Alpha criteria and indicating acceptable reliability.

Table 1. Reliability Test Result

	Leadership	Total Quality Management	Motivation	Performance
Charisma (X11)	0.801			
Inspirational (X12)	0.909			
Intellectual Stimulus (X13)	0.887			
Individual Attention (X14)	0.883			
Focus on Customers (X21)		0.595		
Continuous improvement (X22)		0.739		
Total Employee Engagement (X23)		0.822		
Measurement Based on Data/Facts (X24)		0.699		
Physiological (Z1)			0.766	
Sense of security (Z2)			0.816	
Loved (Z3)			0.866	
Award (Z4)			0.848	
Self-actualization (Z5)			0.624	
Quality (Y1)				0.844
Quantity (Y2)				0.938
Commitment (Y3)				0.908

Source: PLS output result (processed, 2026)

Table 2. Construct Reliability and Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Total Quality Management	0.692	0.715	0.808	0.516
Leadership	0.894	0.902	0.926	0.759
Performance	0.879	0.898	0.925	0.806
Motivation	0.846	0.864	0.890	0.622

Source: PLS output result (processed, 2026)

4.1.2 Validity Testing

The outer model validity test was conducted using convergent validity and discriminant validity. Convergent validity is related to the principle that the measures of a construct should be highly correlated. Convergent validity is established when scores from two different instruments measuring the same construct are highly correlated (Hartono, 2018). Convergent validity is assessed using the Average Variance Extracted (AVE), with an AVE greater than 0.50 indicating that the indicator has met this criterion (Hair, 2011). The AVE values exceed 0.50, indicating that the indicators used in this study are valid and meet the criteria for convergent validity. Discriminant validity is related to the principle that different measures of constructs should not be highly correlated. Discriminant validity is assessed using cross-loadings on the construct. An indicator is declared valid or has met discriminant validity if it has the highest value for the intended construct compared to the values for other constructs. The cross-loading values can be seen in Table 3.



Table 3. Outer Model Validity Test

	Leadership	Total Quality Management	Motivation	Performance
Charisma (X11)	0.801	0.491	0.431	0.516
Inspirational (X12)	0.909	0.739	0.493	0.454
Intellectual Stimulus (X13)	0.887	0.633	0.573	0.537
Individual Attention (X14)	0.883	0.520	0.532	0.648
Focus on Customers (X21)	0.257	0.595	0.265	0.207
Continuous improvement (X22)	0.909	0.739	0.493	0.454
Total Employee Engagement (X23)	0.415	0.822	0.448	0.431
Measurement Based on Data/Facts (X24)	0.221	0.699	0.358	0.384
Physiological (Z1)	0.569	0.583	0.766	0.601
Sense of security (Z2)	0.483	0.463	0.816	0.493
Loved (Z3)	0.512	0.455	0.866	0.492
Award (Z4)	0.401	0.383	0.848	0.498
Self-actualization (Z5)	0.269	0.254	0.624	0.412
Quality (Y1)	0.501	0.434	0.463	0.844
Quantity (Y2)	0.619	0.511	0.657	0.938
Commitment (Y3)	0.554	0.494	0.431	0.908

Source: PLS output result (processed, 2026)

Table 3 shows that each indicator has the highest loading factor value when linked to the intended construct compared to other constructs. Similar results are also seen for the other indicators. Therefore, the indicators used in this study are valid and meet the criteria for discriminant validity.

4.1.3 Inner Model

The inner model analysis was conducted by estimating the path coefficients among the constructs in the proposed research framework. The path coefficient values serve as the basis for evaluating the strength and direction of the relationships between variables. A positive coefficient indicates a positive relationship, whereas a negative coefficient indicates an inverse relationship. The higher the path coefficient, the stronger the influence of one variable on another.

The Leadership variable (X1) was measured using four indicators: Charisma (X11), Inspirational Motivation (X12), Intellectual Stimulation (X13), and Individualized Consideration (X14) as presented in Table 4. The results indicate that all indicators significantly contributed to the Leadership construct. Charisma (X11) showed a path coefficient of 0.801, with a t-statistic of 14.524 and a p-value of 0.000. Inspirational Motivation (X12) had the highest contribution, with a coefficient of 0.909, t-statistic of 41.540, and p-value of 0.000. Intellectual Stimulation (X13) contributed 0.887, with a t-statistic of 24.529 and p-value of 0.000. Individualized Consideration (X14) showed a coefficient of 0.883, with a t-statistic of 34.114 and p-value of 0.000. These findings demonstrate that all leadership dimensions significantly shape the Leadership construct, with Inspirational Motivation emerging as the strongest contributor. This suggests that leaders' ability to inspire employees, communicate vision, and motivate subordinates is the dominant aspect of leadership in this organization.

The Total Quality Management (TQM) variable (X2) was measured using four indicators: Customer Focus (X21), Continuous Improvement (X22), Total Employee Involvement (X23), and Fact-Based Measurement (X24) as presented in Table 5. Customer Focus (X21) had a path coefficient of 0.595, with a t-statistic of 4.548 and a p-value of 0.000. Continuous Improvement (X22) contributed 0.739, with a t-statistic of 12.642 and p-value of 0.000. Total Employee Involvement (X23) showed the strongest



contribution, with a coefficient of 0.822, a t-statistic of 18.796, and a p-value of 0.000. Fact-Based Measurement (X24) contributed 0.669, with a t-statistic of 4.548 and p-value of 0.000. These results indicate that all TQM indicators significantly explain the construct. Among them, Total Employee Involvement is the dominant indicator, suggesting that employees' active participation in organizational quality improvement initiatives is the most critical component of successful TQM implementation.

Table 4. Path Coefficient Leadership Variable

	Original Sample	T Statistics	P Values
Charisma (X11)	0.801	14.524	0.000
Inspirational (X12)	0.909	41.540	0.000
Intellectual Stimulus (X13)	0.887	24.529	0.000
Individual Attention (X14)	0.883	34.114	0.000

Source: PLS output result (processed, 2026)

Table 5. Path Coefficient Total Quality Management Variable

	Original Sample	T Statistics	P Values
Focus on Customers (X21)	0.595	4.548	0.000
Continuous improvement (X22)	0.739	12.642	0.000
Total Employee Engagement (X23)	0.822	18.796	0.000
Measurement Based on Data/Facts (X24)	0.699	4.548	0.000

Source: PLS output result (processed, 2026)

The Motivation variable (Z) was measured using five indicators: Physiological Needs (Z1), Safety Needs (Z2), Belongingness (Z3), Esteem (Z4), and Self-Actualization (Z5) as presented in Table 6. Physiological Needs (Z1) had a coefficient of 0.766, a t-statistic of 12.833, and a p-value of 0.000. Safety Needs (Z2) had a coefficient of 0.816, with a t-statistic of 18.147 and a p-value of 0.000. Belongingness (Z3) emerged as the strongest contributor, with a coefficient of 0.866, t-statistic of 16.767, and p-value of 0.000. Esteem (Z4) contributed 0.848, with a t-statistic of 14.679 and p-value of 0.000. Self-Actualization (Z5) had the lowest but still significant contribution, with a coefficient of 0.624, t-statistic of 4.493, and p-value of 0.000. These findings indicate that all motivation indicators significantly form the Motivation construct. Belongingness was the strongest contributor, suggesting that social acceptance, positive workplace relationships, and a sense of being valued are key drivers of employee motivation.

Table 6. Path Coefficient Motivational Variable

	Original Sample	T Statistics	P Values
Physiological (Z1)	0.766	12.833	0.000
Sense of security (Z2)	0.816	18.147	0.000
Loved (Z3)	0.866	16.767	0.000
Award (Z4)	0.848	14.679	0.000
Self-actualization (Z5)	0.624	4.493	0.000

Source: PLS output result (processed, 2026)

The Employee Performance variable (Y) was measured using three indicators: Work Quantity (Y1), Work Quality (Y2), and Work Commitment (Y3) as presented in Table 7. Work Quantity (Y1) showed a coefficient of 0.844, with a t-statistic of 12.436 and p-value of 0.000. Work Quality (Y2) had the highest contribution, with a coefficient of 0.938, t-statistic of 61.258, and p-value of 0.000. Work Commitment (Y3) contributed 0.908, with a t-statistic of 30.775 and p-value of 0.000. These results confirm that all



indicators significantly represent employee performance. Among them, Work Quality is the dominant factor, suggesting that output quality is the most important measure of employee performance in the organization, followed by commitment and quantity of work.

Table 7. Path Coefficient Employee Performance Variable

	Original Sample	T Statistics	P Values
Quality (Y1)	0.844	12.436	0.000
Quantity (Y2)	0.938	61.258	0.000
Commitment (Y3)	0.908	30.775	0.000

Source: PLS output result (processed, 2026)

4.1.4 Direct Analysis

The direct effects analysis was conducted to examine the immediate influence of the independent variables on the dependent variables in the structural model. The results of the direct effects test are presented in Table 8. The findings indicate that leadership, Total Quality Management (TQM), and motivation generally show positive direct relationships with the endogenous variables, although not all relationships are statistically significant. This suggests that while several managerial factors directly contribute to employee outcomes, some effects may operate more strongly through indirect mechanisms. The direct effect of Leadership (X1) on Employee Performance (Y) is 0.333, with a t-statistic of 3.037 and a p-value of 0.003. Since the p-value is below 0.05, the result confirms that leadership has a positive and significant direct effect on employee performance. This implies that improved leadership practices, such as guidance, communication, and supervision, can directly enhance employees' work outcomes.

The direct effect of Leadership (X1) on Motivation (Z) is 0.378, with a t-statistic of 3.150 and a p-value of 0.002. This indicates that leadership positively and significantly affects employee motivation. Effective leaders can therefore increase employees' enthusiasm, commitment, and willingness to perform their duties. The direct effect of Total Quality Management (X2) on Employee Performance (Y) is 0.085, with a t-statistic of 0.641 and a p-value of 0.522. Since the p-value exceeds 0.05, this result indicates that TQM has a positive but statistically insignificant direct effect on employee performance. This finding suggests that TQM implementation alone may not immediately improve performance unless supported by other behavioral or organizational factors.

Table 8. Direct Path Result

	Original Sample	T Statistics	P Values
Leadership → Performance	0.333	3.037	0.003
Leadership → Motivational	0.378	3.150	0.002
Total Quality Management → Performance	0.085	0.641	0.522
Total Quality Management → Motivational	0.306	2.398	0.017
Motivational → Performance	0.400	3.395	0.001

Source: PLS output result (processed, 2026)

The direct effect of Total Quality Management (X2) on Motivation (Z) is 0.306, with a t-statistic of 2.398 and a p-value of 0.017. This confirms that TQM has a positive and significant effect on employee motivation. A quality-oriented work system that emphasizes participation, continuous improvement, and fairness can increase employee morale and engagement. The direct effect of Motivation (Z) on Employee Performance (Y) is 0.400, with a t-statistic of 3.395 and a p-value of 0.001. This indicates that

motivation has a positive and significant direct effect on employee performance. Employees with higher motivation tend to be more productive, committed, and effective in performing their responsibilities.

4.1.5 Indirect Analysis

The indirect effects analysis was conducted to determine whether the independent variables influence employee performance through the mediating role of motivation. The results are presented in Table 9. The indirect effect indicates that Leadership (X1) on Employee Performance (Y) through Motivation (Z) is 0.151, with a t-statistic of 2.358 and a p-value of 0.019. Since the p-value is below 0.05, the result indicates that leadership has a positive and significant indirect effect on employee performance through motivation. This means that leadership not only affects performance directly, but also improves performance by increasing employee motivation. Meanwhile, the indirect effect of Total Quality Management (X2) on Employee Performance (Y) through Motivation (Z) is 0.122, with a t-statistic of 1.647 and a p-value of 0.100. Because the p-value is greater than 0.05, the result indicates that TQM has a positive but statistically insignificant indirect effect on employee performance through motivation. This suggests that although TQM contributes to motivation, the mediating pathway is not strong enough to improve employee performance in this sample significantly.

Table 9. Indirect Path Result

	Original Sample	T Statistics	P Values
Leadership → Motivational → Performance	0.151	2.358	0.019
Total Quality Management → Motivational → Performance	0.122	1.647	0.100

Source: PLS output result (processed, 2026)

4.1.6 Total Effect

The total effects analysis was conducted to determine the combined direct and indirect influence of the independent variables on employee performance. The results are shown in Table 10. According to this table, the total effect of Leadership on Employee Performance, mediated by Motivation, is 0.488. This indicates that leadership is the strongest predictor of employee performance in the model, combining both direct influence and motivational pathways. The total effect of Total Quality Management on Employee Performance through Motivation is 0.207. Although positive, the total influence of TQM is smaller than that of leadership, indicating that leadership plays a more dominant role in improving employee performance in the organizational context studied. Overall, these findings demonstrate that leadership has the most substantial impact on employee performance, both directly and indirectly through motivation. In contrast, the influence of TQM appears more limited and contingent on supportive organizational conditions.

Table 10. Total Effect Result

	Original Sample
Leadership → Motivational → Performance	0,488
Total Quality Management → Motivational → Performance	0,207

Source: PLS output result (processed, 2026)

4.1.7 Coefficient Determination

The coefficient of determination (R^2) was used to assess the explanatory power of the structural model by quantifying the proportion of variance in the endogenous constructs explained by their respective exogenous predictors. Since the number of indicators differed across constructs, the interpretation focused on the adjusted R^2 values, which provide a more accurate estimate by accounting for model complexity. The adjusted R^2 values generated through the SmartPLS algorithm are presented in Table 11.

Table 11. Coefficient Determination Result

	R Square	R Square Adjusted
Motivational	0.510	0.486
Performance	0.394	0.374

Source: PLS output result (processed, 2026)

The results indicate that the adjusted R^2 value for Motivation is 0.486, meaning that Leadership and Total Quality Management (TQM) jointly explain 48.6% of the variance in employee motivation. The remaining 51.4% is explained by other variables not included in the current model. This finding suggests that leadership practices and quality management systems are important predictors of employee motivation, although additional psychological, organizational, or contextual factors may also contribute. Meanwhile, the adjusted R^2 for Employee Performance is 0.374, indicating that Leadership, TQM, and Motivation collectively explain 37.4% of the variance in employee performance, with the remaining 62.6% attributable to other factors outside the model. This level of explanatory power may be considered moderate in organizational behavior research, where employee performance is often influenced by multiple internal and external determinants such as competence, compensation, work environment, and organizational culture. Overall, these findings confirm that the proposed model has acceptable predictive capability in explaining motivation and employee performance within the public utility context.

4.1.8 Hypothesis Testing

The summary of hypothesis testing results is presented in Table 12. The results demonstrate that most of the proposed hypotheses were supported, indicating that leadership, TQM, and motivation play important roles in shaping employee outcomes. First, Leadership significantly affects Employee Performance ($\beta = 0.333$, $t = 3.037$, $p = 0.003$), supporting H1. This implies that stronger leadership practices directly enhance employee productivity, commitment, and effectiveness. Second, Leadership significantly affects Motivation ($\beta = 0.378$, $t = 3.150$, $p = 0.002$), supporting H2. This finding indicates that effective leadership contributes positively to employee enthusiasm, engagement, and willingness to perform. Third, TQM does not significantly affect Employee Performance ($\beta = 0.085$, $t = 0.641$, $p = 0.522$), leading to the rejection of H3. Although the relationship is positive, the result suggests that TQM implementation alone does not directly translate into higher performance in this organizational setting. Fourth, TQM significantly affects Motivation ($\beta = 0.306$, $t = 2.398$, $p = 0.017$), supporting H4. This indicates that quality-oriented systems that emphasize participation and continuous improvement can increase employee motivation. Fifth, Motivation significantly affects Employee Performance ($\beta = 0.400$, $t = 3.395$, $p = 0.001$), supporting H5. This confirms that motivated employees tend to demonstrate stronger work outcomes and greater organizational commitment. Sixth, Leadership significantly affects



Employee Performance through Motivation ($\beta = 0.151, t = 2.358, p = 0.019$), supporting H6. This result confirms the mediating role of motivation, suggesting that leadership improves performance both directly and indirectly through increased motivation. Seventh, TQM does not significantly affect Employee Performance through Motivation ($\beta = 0.122, t = 1.647, p = 0.100$), resulting in the rejection of H7. Although TQM positively influences motivation, the indirect pathway is not sufficiently strong to produce a statistically significant impact on performance. In summary, the hypothesis testing results highlight leadership as the most consistent predictor of both motivation and performance, while motivation itself serves as a critical determinant of employee performance. TQM appears to be more effective in improving motivational outcomes than in directly influencing performance.

Table 12. Summary Hypothesis Testing

	Hypohotesis	Path Coef	t-stat > 1,96	Sig. < 0,05	Result
H1	Leadership has a positive and significant influence on employee performance	0.333	3.037	0.003	Accepted
H2	Leadership has a positive and significant influence on employee motivation	0.378	3.150	0.002	Accepted
H3	Total Quality Management has a positive and significant impact on employee performance	0.085	0.641	0.522	Rejected
H4	Total Quality Management has a positive and significant effect on employee motivation	0.306	2.398	0.017	Accepted
H5	Motivation has a positive and significant influence on employee performance	0.400	3.395	0.001	Accepted
H6	Leadership has a positive and significant influence on performance through employee motivation.	0.151	2.358	0.019	Accepted
H7	Total Quality Management has a positive and significant effect on performance through employee motivation.	0.122	1.647	0.100	Rejected

4.2 Discussion

4.2.1 Leadership and Employee Performance

The empirical results demonstrate that leadership has a positive and significant effect on employee performance. This finding indicates that effective leadership practices can improve employee productivity, responsibility, service quality, and commitment within the organization. In the context of public utility organizations, leadership plays a strategic role because employees must perform under operational pressure while maintaining service reliability and responsiveness to citizens' needs.

The descriptive findings further suggest that respondents generally perceived leadership practices positively. Among the leadership dimensions, inspirational motivation emerged as the strongest contributor, implying that employees place substantial value on leaders who communicate vision, encourage initiative, and inspire confidence. This result supports transformational leadership



theory, which argues that leaders who inspire followers and create shared purpose can stimulate higher performance outcomes. In practice, when leaders encourage employees to apply reasoning to solve work problems, performance tends to improve because employees become more adaptive and solution-oriented. However, the relatively low perception of leaders' ability to foster work enthusiasm suggests that managerial attention should also be directed toward recognition systems, incentives, and emotional support mechanisms. This finding is consistent with previous studies reporting that leadership positively affects employee performance through clearer direction, stronger coordination, and greater employee confidence. Therefore, leadership development remains a key strategic intervention for improving organizational effectiveness.

4.2.2 Leadership and Employee Motivation

The study also confirms that leadership has a positive and significant effect on employee motivation. This means that leadership behavior influences not only employee performance directly but also employees' internal willingness to contribute to organizational goals. Leaders who communicate effectively, appreciate employees' contributions, and foster a fair work environment tend to increase motivation among subordinates.

This result aligns with expectancy theory, which posits that employees are motivated when they believe their effort will lead to valued outcomes. Leaders serve as facilitators in this process by clarifying goals, allocating support, and linking performance with rewards. When employees trust that good performance will be recognized, their motivation increases. The finding also supports relational leadership perspectives, suggesting that employees are more motivated when leaders involve them in decision-making and maintain open communication. In public organizations, where formal procedures can sometimes limit flexibility, supportive leadership becomes particularly important in sustaining morale and commitment. Accordingly, organizations should strengthen managerial capabilities in communication, coaching, and participative decision-making to foster long-term employee motivation.

4.2.3 Total Quality Management and Employee Performance

The findings reveal that Total Quality Management (TQM) is positively related to employee performance, although the direct statistical effect was not significant in the structural model. This suggests that while TQM contributes to better work systems and operational discipline, its direct impact on individual performance may depend on complementary organizational conditions.

TQM principles such as customer focus, continuous improvement, employee involvement, and fact-based decision-making help create a structured and quality-oriented work environment. In service institutions such as water utility companies, these principles are highly relevant because service consistency, complaint handling, and operational reliability depend on standardized processes. However, the insignificant direct effect may indicate that quality systems alone are insufficient to yield immediate performance improvements unless employees internalize them through commitment, motivation, or capability development. In other words, TQM may operate more effectively as an enabling framework rather than as an automatic performance driver. This interpretation is consistent with quality management theory, which emphasizes that TQM success depends not only on procedures but also on leadership commitment, organizational culture, and employee engagement.

4.2.4 Total Quality Management and Employee Motivation

The results further indicate that TQM has a positive and significant effect on employee motivation. This means that employees become more motivated when they work in organizations that emphasize continuous improvement, participation, fairness, and quality excellence. From a motivational perspective, TQM encourages employees to feel involved in organizational improvement processes. Participation in decision-making and problem-solving can enhance ownership, self-worth, and responsibility. Employees who perceive that their ideas matter are generally more engaged and willing to contribute. This finding can be interpreted through the lens of Maslow's hierarchy of needs and Herzberg's two-factor theory. TQM practices may satisfy higher-order needs such as esteem, belongingness, and self-actualization, while also improving hygiene conditions such as clarity, coordination, and organizational fairness. Therefore, managers should not view TQM merely as a technical management system, but also as a human resource mechanism capable of strengthening employee morale and commitment.

4.2.5 Motivation and Employee Performance

Motivation was found to have a positive and significant effect on employee performance, indicating that employees with stronger motivation tend to produce better work outcomes. Motivated employees are generally more disciplined, persistent, proactive, and committed to organizational goals. This result is consistent with classical motivation theories, which suggest that internal needs and expected rewards determine the intensity and persistence of effort. In public service organizations, motivation is particularly important because many tasks require initiative, responsiveness, and cooperation beyond minimum formal requirements. Employees with higher motivation are more likely to maintain service quality, resolve customer issues quickly, and coordinate effectively with colleagues. Consequently, motivation should be considered one of the most critical behavioral determinants of organizational performance. To strengthen motivation, organizations may implement fair rewards, career development opportunities, supportive supervision, and recognition of employee achievements.

4.2.6 Leadership and Employee Performance through Motivation

The mediation analysis confirms that leadership has a positive and significant indirect effect on employee performance through motivation. This finding implies that leadership improves employee performance not only through direct managerial control but also by enhancing employees' psychological readiness to perform. Leaders who motivate employees through encouragement, trust, recognition, and empowerment create stronger internal commitment. That motivation subsequently translates into higher productivity, better service behavior, and stronger accountability. This result supports Herzberg's view that managerial treatment and interpersonal conditions influence motivation, which in turn affects work outcomes. It also reinforces the argument that leadership effectiveness should be evaluated not only by task completion but also by the leader's ability to energize employees. Thus, organizations seeking higher performance should develop leaders who can simultaneously manage operations and inspire people.



4.2.7 Total Quality Management and Employee Performance through Motivation

The indirect relationship between TQM and employee performance, mediated by motivation, was positive but statistically insignificant. This suggests that while TQM contributes to employee motivation, the motivational pathway was not sufficiently strong to create a significant performance effect in the current sample. Several explanations are possible. First, TQM implementation may still be procedural rather than fully embedded in organizational culture. Second, employees may perceive quality initiatives as administrative requirements rather than meaningful empowerment mechanisms. Third, other factors, such as compensation, competence, or workload, may have stronger effects on performance than the motivation generated by TQM practices. Nevertheless, the positive direction of the relationship indicates that TQM remains relevant. With stronger leadership support, employee participation, and communication, TQM may generate greater motivational and performance benefits over time. This finding highlights that organizations should not rely solely on formal quality systems. Instead, TQM should be integrated with people-centered strategies that address employee needs, engagement, and behavioral commitment.

4.2.8 General Implications of the Findings

The findings emphasize that leadership is the most consistent predictor of both motivation and employee performance, while motivation acts as a central mechanism linking managerial practices to work outcomes. TQM appears valuable primarily through its ability to shape organizational climate and motivational conditions rather than through immediate direct performance effects. For public utility organizations, sustainable performance improvement requires a combination of competent leadership, quality management systems, and strong employee motivation. Management interventions should therefore integrate structural reforms with human-centered leadership practices to achieve long-term service excellence.

5. Concluding Remarks and Recommendation

This study examined the relationships among leadership, Total Quality Management (TQM), motivation, and employee performance within the context of Perumda Air Minum Makassar City, a public utility organization responsible for delivering essential water services. Using a Partial Least Squares–Structural Equation Modeling (PLS-SEM) approach, the study investigated both direct and indirect effects to understand how managerial and behavioral factors jointly shape employee performance. The findings provide important theoretical and practical insights into performance improvement in public sector organizations.

First, the results confirm that leadership is a significant determinant of employee performance. Effective leadership practices, such as clear direction, supervision, communication, problem-solving, and employee support, were found to enhance performance outcomes. This indicates that leaders play a central role in aligning employee efforts with organizational objectives. In a public service environment where responsiveness, accountability, and service continuity are critical, leadership effectiveness becomes a strategic asset for sustaining organizational performance. Second, leadership was also found to have a significant positive effect on employee motivation. Employees tend to be more motivated when leaders demonstrate fairness, provide recognition, communicate expectations clearly, and create



supportive working conditions. This result highlights that leadership functions not merely as an administrative mechanism but also as a psychological driver that shapes employees' attitudes and willingness to contribute. Therefore, organizations should prioritize leadership development programs that strengthen both managerial competence and interpersonal capability. Third, the study found that TQM positively influences employee motivation, indicating that quality-oriented management systems can strengthen morale and engagement. Practices such as employee involvement, continuous improvement, customer focus, and evidence-based decision making create a more participative and structured work environment. Employees who perceive themselves as active contributors in quality improvement initiatives are more likely to feel valued and committed to organizational success.

However, the direct effect of TQM on employee performance was not statistically significant. This finding suggests that TQM implementation alone may not automatically improve employee output unless a supportive organizational culture, effective leadership, and employee readiness accompany it. In practical terms, TQM should not be treated merely as a procedural or technical framework, but as a broader organizational philosophy that requires behavioral commitment and active participation to generate meaningful performance outcomes. Fourth, motivation was found to influence employee performance significantly. Employees with higher motivation tend to demonstrate stronger discipline, persistence, responsibility, and work quality. This confirms that motivation remains one of the most important predictors of performance in organizational behavior research. For public utility institutions, motivated employees are more likely to provide responsive services, cooperate effectively across departments, and maintain service standards under operational pressure. The mediation analysis further revealed that motivation significantly mediates the relationship between leadership and employee performance. This means leadership improves performance not only directly, but also indirectly by strengthening employee motivation. In contrast, motivation did not significantly mediate the relationship between TQM and performance. Although TQM improves motivation, its motivational effect was insufficient to yield a statistically significant indirect impact on performance in the current model.

This study concludes that leadership is the most consistent and influential predictor of both motivation and employee performance. In contrast, motivation serves as a critical behavioral mechanism linking management practices to outcomes. TQM remains valuable, particularly in fostering a quality-oriented climate and improving employee motivation, but its effectiveness depends on the quality of organizational implementation. From a managerial perspective, public organizations should simultaneously invest in leadership capabilities, employee motivation systems, and participative quality management practices. Future studies may expand the model by incorporating additional variables such as organizational culture, job satisfaction, compensation, employee competence, or digital transformation. Through integrated managerial strategies, public utility organizations can enhance employee performance and achieve sustainable service excellence.

Statement of Use of Generative AI

During the preparation of this work, the author used ChatGPT to improve the clarity and readability of the text. The author reviewed and edited the output and takes full responsibility for the content of the publication.



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