

# The Effect of the Implementation of Total Quality Management (TQM) on the Performance of the Distribution Section at PT PLN (Persero) UP3 Mataram

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## ABSTRACT

This research is motivated by the importance of improving the quality of service and reliability of electricity distribution at PT PLN (Persero) UP3 Mataram in the midst of increasing public demands for effective, efficient, and customer satisfaction-oriented public services. Total Quality Management (TQM) is one of the management approaches that is considered to be able to improve the quality of organizational performance through continuous improvement, customer focus, employee involvement, and overall quality control. This study aims to analyze the effect of the implementation of TQM on the performance of the distribution department at PT PLN (Persero) UP3 Mataram and to find out the extent to which the implementation of TQM is able to improve the quality of electricity distribution services. The implementation of TQM affects the achievement of distribution performance indicators and service effectiveness at PT PLN (Persero) UP3 Mataram which is the main focus of this research question. A descriptive qualitative approach was applied in this study and data collection techniques were carried out through observation and interview activities as well as documentation and literature studies. The stages of data reduction and data presentation and conclusion drawing are used systematically to conduct data analysis. The positive impact on improving the performance of the distribution section is shown by

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the results of the research on the implementation of TQM. The decrease in the value of SAIDI from 161.65 to 130.52 minutes/customer and the decrease in the value of SAIFI from 2.06 to 1.79 times/customer as well as the decrease in the value of ENS from 728.22 MWh to 240.82 MWh show clear evidence of the improvement in operational performance. A significant decline was also experienced by negative feedback ratings and repeated complaints of disturbances in the field. Increasing operational effectiveness and the quality of electricity distribution services can be achieved optimally through the application of TQM principles such as continuous improvement and customer focus as well as teamwork and consistent quality control based on these scientific findings. The conclusion of this study shows that the implementation of Total Quality Management (TQM) has a positive effect on improving the performance of the distribution department at PT PLN (Persero) UP3 Mataram. The implementation of TQM not only improves the quality of service and reliability of electricity distribution, but also strengthens customer satisfaction and operational efficiency of the company. This research contributes to the development of quality management and operational management science, especially in the public service and electricity sectors. The next study is recommended to use a quantitative approach or mixed method with a wider coverage of the area and add other variables such as organizational culture, leadership, and digital quality management to obtain more comprehensive result.

**Keywords:** Total Quality Management, Distribution Performance, Service Quality

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## INTRODUCTION

Electrical energy has become the main need in supporting various activities, ranging from the economic sector, industry, education, public services, to people's daily lives, so that the existence of a safe, stable, and quality electricity supply plays an important role in increasing people's productivity. Power companies such as PT PLN (Persero), which is a state-owned company with a heavy burden of ensuring the reliability of

electricity distribution in many regions of Indonesia, including West Nusa Tenggara, are under increasing pressure to meet the demand for reliable electricity due to technological advances. However, the implementation of services still faces various obstacles such as power grid disruptions, slow handling of customer complaints, the effectiveness of employee work that is not optimal, and the achievement of service targets that are not optimal, which has the potential to affect customer satisfaction levels and company image if not managed effectively, while research by Rotinsulu et al., (2021) shows that the implementation of Total Quality Management (TQM) at PT PLN can be improving the quality of organizational work through employee involvement and better quality control, and Talibonso et al., (2021) explained that the implementation of TQM is able to improve managerial performance and service effectiveness of electricity companies so that companies need to implement a management system that can improve service quality in a sustainable manner.

High service demands require PT PLN (Persero) to implement a reliable management system in order to maintain continuous improvement of service quality and maintain the company's competitiveness while optimally meeting customer expectations. Organizations often use the Total Quality Management strategy, which is one of the most popular methods to improve operations and minimize errors, speed up disruption handling and spur employee productivity while boosting customer satisfaction with the company's services. This management system is based on the belief that achieving maximum work quality requires all employees to work together. According to Wahani et al. (2021), the implementation of Total Quality Management has been proven to have a significant influence on improving employee performance at PT PLN so that the quality of the company's services can develop more optimally. In line with this, according to Amir et al. (2021), Total Quality Management has a positive effect on managerial performance through the implementation of effective leadership and emphasizes that the success of the implementation is an important factor in improving the quality of electricity distribution services, especially in electricity supply companies that are oriented towards public service and customer satisfaction.

The need to provide community services quickly and responsively is a real challenge that must be faced by PT PLN (Persero) UP3 Mataram

as a power distribution service unit in the West Nusa Tenggara region. The operational part of the power grid puts the distribution division in a very crucial position. Companies can position Total Quality Management as a useful strategic instrument to trigger better performance of distribution division employees through improving the quality of work as well as strengthening team collaboration and tightening operational control. The implementation of this research is very important to analyze in depth how the distribution division of PT PLN (Persero) UP3 Mataram performs after adopting Total Quality Management. This is in line with the results of Ciptaningtias et al. (2023), which explain how aspects of TQM such as quality obsession and customer focus have an impact on improving management performance in a company. Therefore, studies examining how TQM impacts the performance of distribution divisions are essential for developing energy services that prioritize efficiency, effectiveness, and customer satisfaction.

Research on TQM at PT PLN (Persero) shows that so far it has only been adopted by the management team responsible for customer service and execution, as well as those responsible for administration and generation. There is still little research on the fundamental problems of implementing TQM in the distribution department. Therefore, the purpose of this study is to examine how the distribution department of PT PLN (Persero) UP3 Mataram has benefited from TQM and how its principles including customer orientation, cooperation, and employee engagement have contributed to the provision of high-quality electricity distribution services. In addition to examining the level of TQM implementation, this study also aims to assess the performance conditions of the distribution section which includes the effectiveness of handling network disruptions, the speed of resolving customer complaints, the achievement of operational targets, and the work productivity of employees, as well as analyzing whether or not there is a significant influence of the implementation of TQM on the improvement of the performance of the distribution section at PT PLN (Persero) UP3 Mataram.

The research that discusses the effect of the implementation of Total Quality Management (TQM) on the performance of the distribution section at PT PLN (Persero) UP3 Mataram is expected to be able to make a theoretical and practical contribution to various parties, especially in enriching the development of operational management science and

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quality management related to the implementation of TQM in the public service sector, as well as becoming a scientific reference for future research that examines the relationship between management quality and performance of public service companies, especially in the electricity sector. From a practical perspective, this research is expected to be used by PT PLN (Persero) UP3 Mataram as an evaluation material in assessing the effectiveness of the implementation of TQM in the distribution section, especially in an effort to improve service quality, increase employee productivity, and achieve the company's operational targets, besides that the results of this research are also expected to be able to be input for the company in developing a strategy to improve the performance of electricity distribution in a sustainable manner in order to improve customer satisfaction and the quality of service to the community

## **METHOD**

The research design used in this study is a descriptive qualitative approach. The goal is to thoroughly examine how the operational activities of PT. PLN (Persero) UP3 Mataram integrates the principles of Total Quality Management (TQM). In addition, we will look at how this implementation impacts employee performance and the effectiveness of electricity distribution services. By collecting data from interviews, observations, and direct documentation, we can present a systematic and accurate picture of the phenomenon being studied. According to John W. Creswell (2018), qualitative research focuses on exploring and understanding meaning that comes from social and humanitarian issues through the interpretation of participants' perspectives. In this study, this approach is seen as relevant because the implementation of TQM is not solely related to formal work procedures, but also includes organizational culture, management commitment, employee participation, and work communication patterns that affect distribution performance, in line with the view of Denzin & Lincoln, (2018) who stated that qualitative research emphasizes the interpretation of social reality based on the experience and interaction of research subjects so that The descriptive qualitative approach is considered the most appropriate to explore the dynamics of TQM implementation comprehensively and provide an in-depth understanding of the relationship between the

implementation of TQM and the improvement of the performance of the distribution section in real and contextual terms at PT. PLN (Persero) UP3 Mataram.

This research was carried out at PT PLN (Persero) Mataram Customer Service Implementation Unit (UP3) located at Jalan Yos Sudarso Number 2 Ampenan, Mataram City, with the distribution section as the focus of the research because the unit has a strategic role in managing electricity distribution, customer service, and handling power grid disruptions in the Mataram City area and its surroundings, while the implementation of the research lasts for ten months from June 1, 2025 to 31 March 2026 which includes the stages of preparing research proposals and preliminary studies in June-July 2025, data collection activities through interviews, observations, and documentation in September 2025 to January 2026, followed by data reduction, data analysis, and triangulation of findings in February 2026, then ending with the preparation of reports and finalization of research results in March 2026 so that the implementation range is expected to be able to produce in-depth data, systematically, and in accordance with the characteristics of qualitative research.

In the qualitative research approach, primary data and secondary data are generally used in an integrated manner to obtain a comprehensive understanding of the phenomenon that is the object of the study, where John W. Creswell stated that qualitative research focuses on the process of collecting data naturally through direct involvement with participants to understand the meaning, experience, and social dynamics that take place in the context of the research (Creswell & Creswell, 2018). Primary data in this study was collected directly from the research subjects through in-depth interview techniques, field observations, and the use of internal company documentation, where the interview process was aimed at parties who had an understanding of the implementation of TQM in the distribution section, including Network Asman, Operations Team Leader, Maintenance Team Leader, PJ K3Kam, Construction Officer, Engineering Team Leader and Engineering Staff, while observation is carried out to directly observe the implementation of work procedures, the implementation of quality control, inter-division coordination, and the work culture that supports the implementation of Total Quality Management. In addition, various internal documents such as work evaluation reports and other supporting documents are used to

strengthen the findings of interviews and observations, considering the characteristics of primary data that are actual, contextual, and able to represent real conditions in the field are considered very relevant in identifying the influence of the application of TQM principles on the quality of service and distribution performance of the company, as the results of previous research show that TQM implementation is positively related to improving organizational performance through improving work processes, strengthening quality culture, and improving operational efficiency (Xu, Ruanggoon, & Thavorn, 2026; Putra, Yunus, & Fakhreza, 2021).

Various textual sources such as scientific publications and books as well as distribution SOPs and performance reports as well as other literature on Total Quality Management and organizational success are secondary data in this study. The researcher makes optimal use of the data to strengthen theoretical analysis and validate the field results that have been found. Secondary data that has a documentary and theoretical nature will provide great benefits when compared to primary data collected directly in the field. According to research conducted by Abbas and Kumari (2021) and Murni et al. (2024), the implementation of organizational quality control and continuous improvement in TQM helps to improve service quality and operational effectiveness as well as customer satisfaction comprehensively

Data collection methods play a very important role in qualitative research to obtain detailed, organized and relevant information about the research subject. According to Sugiyono (2022), researchers take part in data collection in their native habitats by actively engaging directly with data sources. Based on this, this study applies observation, in-depth interview, and documentation techniques because the three methods are considered to be able to provide a comprehensive picture of the implementation of TQM in electricity distribution activities, while the use of several data collection techniques is also intended to deepen the analysis and strengthen the validity of research results through triangulation of sources and methods (Norman K. Denzin, 2017).

The observation technique in this study was carried out through direct observation of distribution activities and the implementation of TQM in the work environment of PT. PLN (Persero) UP3 Mataram with the aim of obtaining factual data related to the distribution service process, implementation of standard operating procedures (SOPs),

employee work discipline, service quality control, and inter-division coordination patterns in supporting the quality of electricity distribution services, where Creswell and Poth (2018) explained that observations in qualitative research allow researchers to understand behaviors, processes, and social interactions in real terms in the natural context of the research. In addition to observation, in-depth interviews were also conducted with informants who were considered to understand the application of TQM, such as Asman Jaringan, Operations Team Leader, Maintenance Team Leader, Engineering Team Leader and Engineering Staff, using semi-structured interview guidelines so that the data obtained remained directed but remained open to the development of new information in the field, while recent research shows that observation and interviews are effective techniques in identifying the success of the implementation of Total Quality Management to improve service quality and organizational effectiveness (Murni et al., 2024; Abbas & Kumari, 2021).

In addition to the use of observation and interviews, this study also utilizes documentation techniques as a complement in data collection by collecting various supporting documents, such as organizational structure, distribution SOPs, distribution performance data, company archives, service quality reports, and internal evaluation documents related to the implementation of TQM, because according to Sugiyono (2022), documentation is a data collection technique used to obtain written information to support and strengthen the results of observations and interviews. To ensure the validity of the data, this study applied the techniques of source triangulation, method triangulation, and member check through re-checking the results of interviews with informants so that the data obtained was in accordance with the actual conditions (Denzin, 2017), where the latest empirical research also showed that the combination of observation, interviews, and documentation was able to improve the accuracy of analysis in organizational research and quality management (Alzoubi et al., 2022).

Data analysis techniques in qualitative research are defined as a systematic approach to organizing, processing, interpreting, and extracting meaning from research data. In this study, the interactive analysis model proposed by Miles, Huberman, and Saldaña was used, which included data reduction, data presentation, conclusion drawn, and verification (Miles, Huberman, & Saldaña, 2014). The initial stage in data

analysis is carried out through data reduction, which is the process of selecting, simplifying, concentrating, and grouping the data of the research results, where at this stage the researcher sorts the results of interviews, observation notes, and company documents related to the implementation of TQM and distribution performance, then the data that is considered relevant is classified based on certain themes such as the application of quality standards, service supervision, work culture, organizational coordination, distribution effectiveness, and employee performance evaluation, while Creswell and Creswell (2018) explain that the process of coding and categorization of themes in qualitative research aims to find patterns, relationships, and meanings contained in research data.

## **RESULTS AND DISCUSSION**

### **Implementation of Total Quality Management (TQM) at PT PLN (Persero) UP3 Mataram**

The implementation of Total Quality Management (TQM) at PT PLN (Persero) UP3 Mataram shows that all the main indicators of TQM such as customer focus and continuous improvement as well as teamwork and employee involvement as well as quality control have been applied in real terms in the operational activities of the distribution department and have contributed greatly to improving the quality of the company's services. The research hypothesis that the application of TQM has an effect on improving the performance of the distribution section is fully supported by the scientific findings obtained in this study.

PLN UP3 Mataram's efforts in accelerating complaint handling and improving responses to power grid disruptions as well as conducting regular distribution service evaluations prove that there is a focus on customers based on the results of observations in the field. The company's orientation is not only focused on solving technical problems but also includes making hard efforts to maintain customer satisfaction as a top priority for public services. The implementation of periodic service evaluation shows that there is organizational awareness to maintain the quality of electricity distribution consistently so that the effectiveness of services becomes more optimal. According to research conducted by Talibonso et al. (2021), the implementation of TQM at PT PLN is able to improve service effectiveness and managerial performance quality

through employee involvement and better quality control so that the results of this study are considered to be very consistent with the previous findings. In addition, research by Ciptaningtias et al. (2023) also explains that the dimensions of customer focus and obsession with quality affect the improvement of the company's organizational performance.

### **Continuous Improvement**

The findings of the study also show that the principle of continuous improvement is applied through routine evaluation of distribution services through weekly operation plan forums, work system development, and continuous improvement of service quality. In the context of this study, the implementation of continuous improvement by PLN UP3 Mataram is influenced by the high demand for electricity distribution services which requires the company to be able to work quickly, precisely, and efficiently in dealing with network disruptions. In addition, the geographical condition of the service area and the increasing number of customers in Mataram City are also factors that encourage the company to continue to innovate and develop electricity distribution service systems. These results support the TQM theory put forward by Goetsch and Davis that organizational quality must be built through a process of continuous improvement in all aspects of the company's operations. This research is in line with Acquah et al. (2022) and Mittal et al. (2023) who found that the implementation of continuous improvement is able to significantly increase operational effectiveness and the quality of organizational performance. Furthermore, this study found that teamwork and employee involvement have a major contribution to improving the performance of the distribution department. Coordination between employees through various weekly coordination forums, internal organizational communication, field operational collaboration through joint maintenance activities, and employee participation in decision-making show that a collective work culture has developed in the work environment of PT PLN (Persero) UP3 Mataram.

In addition, research by Febrianti et al. (2021) also shows that employee involvement in the quality management system has an effect on increasing work productivity and the effectiveness of company services. In this study, employee involvement was seen through job training for outsourced personnel through campus activities, operational discipline through mutual agreement on weekly work plans, and

employee commitment to electricity distribution service standards in the implementation of maintenance activities. This condition shows that the success of TQM implementation is not only influenced by management policies, but also determined by the quality of human resources and organizational work culture. Based on the overall findings of the study, it can be concluded that the implementation of Total Quality Management at PT PLN (Persero) UP3 Mataram has a positive impact on improving the quality of electricity distribution services, operational effectiveness, and employee work productivity. These findings strengthen the quality management theory which states that the consistent implementation of TQM is able to increase organizational competitiveness through improving service quality and the involvement of all organizational elements.

The findings of the study based on 2025 performance data regarding the performance of the distribution section at PT PLN (Persero) UP3 Mataram show that the effectiveness of electricity distribution services has run quite well through the performance indicator documents System Average Interruption Duration Index (SAIDI), System Average Interruption Frequency Index (SAIFI), MV Outage Duration and Normalization of Alert 1 TM Disruption. The achievement in 2025 regarding these indicators has been achieved with a SAIDI value of 130 minutes/customer and SAIFI 1.79 times/customer as well as MV Outage of 110% and Normalization of Standby 1 TM Disruption of 110%. The purpose of the research that wants to find out the performance condition of the distribution section in carrying out electricity distribution services to the community is fully supported by the results of this study. The ability of employees to respond quickly to network disruption reports and make network repairs according to the company's operational standards shows the effectiveness of handling network disruptions in real terms. The operational supervision and work coordination system in the distribution section has been running effectively as shown by the level of distribution disruption that can be minimized well.

According to research conducted by Putra and Indrawati (2023), improving the quality of operational management has an effect on service effectiveness and increasing organizational productivity, which makes the results of this research very aligned. According to the explanation of Emir and Sulistyowati (2024), the company's operational effectiveness is greatly influenced by the organization's ability to maintain the quality of

service distribution and the accuracy of solving operational problems. The readiness of human resources and field technical coordination as well as the implementation of electricity distribution service standards that have been set by the company are important factors that affect the effectiveness of handling network disruptions in the context of this study.

#### Employee Work Productivity

Fairly good conditions are shown by the work productivity of distribution department employees through the timely completion of operational work and employee work discipline as well as high responsibility for electricity distribution services in addition to the effectiveness of the services that have been running. The productivity performance figure of PLN UP3 Mataram employees of 105% of the 2025 target of 100% is tangible evidence that shows the work productivity based on the 2025 performance document. These findings are consistent with research by Wiyono et al. (2023) who explain that the quality of human resources and work discipline have a positive relationship with increasing organizational operational effectiveness. In addition, research by Meyrandi et al. (2023) also shows that employee work productivity is greatly influenced by the work coordination system, work motivation, and organizational culture that supports service quality.

#### Achievement of Operational Targets

This study also found that the achievement of operational targets and the quality of distribution services at PT PLN (Persero) UP3 Mataram was influenced by the company's effectiveness in maintaining the stability of electricity supply to the community. The achievement of operational targets is reflected in the 2025 performance document related to the performance indicators of the System Average Interruption Duration Index (SAIDI), System Average Interruption Frequency Index (SAIFI), Energy Not Served (ENS), MV Outage Duration and Normalization of Alert 1 TM Disturbance which as a whole will be achieved in 2025. In addition, the level of customer satisfaction with distribution services shows that the quality of the company's technical and administrative services has been running quite well even though there are still some technical obstacles in the field. This is reflected in the 2025 performance document where the indicators of service improvement that are overall achieved in 2025 such as negative feedback ratings, repeated complaints and response time to disruptions. These results are in line with the research of Talibonso et al. (2021) which

explains that the improvement of the quality of distribution services is influenced by the effectiveness of quality control and the ability of organizations to maintain the stability of public services. In addition, research by Barbosa et al. (2023) also confirms that the effectiveness of operational systems and service quality supervision have an influence on increasing customer satisfaction.

### **The Influence of Customer Focus on Distribution Performance**

The results of the study show that the implementation of Total Quality Management (TQM) has a positive influence on improving the performance of the distribution department at PT PLN (Persero) UP3 Mataram. These findings support the research hypothesis that the implementation of TQM principles is able to increase the effectiveness of electricity distribution services, employee work productivity, service quality, and overall organizational effectiveness. Focus on customers is one of the dominant factors that affect the improvement of distribution performance because the company strives to provide fast, responsive, and customer needs. Customer focus on the distribution department can be measured through service improvement performance indicators obtained from the 2025 performance document which will be achieved in 2025 such as negative feedback rating of 110%, repeated complaints of 110% and response time to disturbances of 109%. This condition shows that the implementation of customer focus in TQM not only improves the quality of public services, but also supports the creation of overall operational effectiveness of electricity distribution.

The findings of this study are consistent with the research of Talibonso et al. (2021) which explains that the implementation of TQM at PT PLN is able to increase service effectiveness and the quality of the company's managerial performance. In addition, research by Ciptaningtias et al. (2023) also states that customer focus and obsession with quality have a significant influence on improving organizational performance. In the context of PT PLN (Persero) UP3 Mataram, the results of the study show that the implementation of continuous improvement has an impact on increasing employee work productivity and distribution operational effectiveness. Work productivity is reflected in the 2025 performance document regarding unit productivity performance in 2025 which was achieved by 105%. In addition, work productivity is also reflected in the achievement of UP3 Mataram's

overall performance target of 105 points. Routine evaluation of services, updating distribution SOPs, and developing work systems help companies in improving service quality consistently. These findings are in line with the research of Acquah et al. (2022) and Mittal et al. (2023) who explain that the implementation of continuous improvement can improve the quality of organizational work through continuous evaluation and development of operational systems.

This study also found that teamwork and employee involvement have a great influence on the effectiveness of electricity distribution services. Based on the results of the observations, teamwork can be seen in joint maintenance, safety briefing activities, and weekly COC activities. Regarding the influence of teamwork, one of the participants mentioned in an interview:

*"With integrated maintenance work followed by maintenance team representatives from each service unit, it will be more effective and efficient in maintenance work"*

Coordination between employees, internal organizational communication, and field operational collaboration help accelerate the handling of network outages and improve the quality of service to customers. The findings are consistent with research by Singh et al. (2020) who explained that teamwork has a positive relationship with increasing organizational effectiveness and the quality of public services. In addition, research by Febrianti et al. (2021) shows that employee involvement in the implementation of TQM can increase work motivation, productivity, and employee responsibility for company services. A participatory and service-quality-oriented work culture has been successfully built by the company which is shown clearly through the participation of employees in operational decision-making and service evaluation in this study.

The implementation of comprehensive quality management or "Total Quality Management" (TQM) is actually able to boost the effectiveness of the organization as a whole and at the same time increase the quality of service and work productivity of employees. Various research results have proven that the implementation of this management system is very helpful in increasing the number of active employee involvement in order to achieve optimal distribution performance targets. The real form of increased involvement of these employees can be seen directly through the formation of a "Person In Charge" (PIC) to

oversee various activities that support the success of organizational performance which include PIC Monitoring Substations and Network Inspections as well as Maintenance Work and Customer Disturbances. The management clarifies the individual contribution through the direct appointment of employees as the PIC Monitoring Substation so that the monitoring process and the submission of anomalies at the Substation can be controlled in a more structured and good manner. This positive phenomenon regarding work involvement is felt to be in line with the results of a previous study from Emir and Sulistyowati (2024) which outlined how the implementation of quality management has a very significant impact on operational effectiveness as well as the level of competitiveness owned by an organization.

Research by Barbosa et al. (2023) also confirms that systematic quality control and operational evaluation can improve organizational effectiveness and customer satisfaction. In the context of PT PLN (Persero) UP3 Mataram, the positive influence of TQM on organizational performance is influenced by public service conditions that require companies to be able to work quickly, precisely, and adaptively to the needs of the community.

### **The Influence of TQM on Overall Organizational Performance**

The results of the study show that Total Quality Management (TMM) has a positive impact on the performance of the distribution department at PT PLN (Persero) UP3 Mataram. This is achieved through improved service quality, operational effectiveness, employee work productivity, and a stronger quality control system. The performance metrics of the section include System Average Interruption Duration Index (SAIDI), System Average Interruption Frequency Index (SAIFI), Energy Not Served (ENS), MV Outage Duration, and Normalisation of Standby 1 TM Disturbance. These findings strengthen TQM's theory that organizational success is greatly influenced by customer orientation, continuous improvement, employee involvement, and teamwork in achieving optimal service quality. The influence of TQM on the overall performance of the organization is reflected in the performance data indicators of the UP3 Mataram distribution division in 2025 as shown in the following table:

**Table 1. Performance of UP3 Mataram Distribution Division in 2025**

Yes	Performance Indicators	Units	Target	Realization	Point Value	Status
1	SAIDI	Minutes/Subscribers	167,38	130,52	6	Achieved
2	SAIFI	Times/Customers	2,22	1,79	6	Achieved
3	ENS	MWh	571,66	240,82	2	Achieved
4	Distribution Transformer Damage	Units	10	1	2	Achieved
5	Negative Feedback Rating	%	0,04	0,007	1,6	Achieved
6	Complaints of Repeated Harassment	%	0,02	0,016	1,6	Achieved
7	Response Time to Disruption	Minutes	32,72	29,69	3.2	Achieved

Source: UP3 Mataram Performance, 2025

### **Analysis of the Implementation of TQM in the Distribution Section of PT PLN (Persero) UP3 Mataram**

Based on the results of the study, it shows that the implementation of Total Quality Management (TQM) in the distribution department of PT PLN (Persero) UP3 Mataram has gone quite well and is in accordance with the basic principles of TQM which emphasizes focus on customers, continuous improvement, employee involvement, teamwork, and organizational quality control. The company's hard efforts in planning all work in the distribution section which has a very high level of operational complexity are tangible evidence of the success of the implementation of "Total Quality Management" (TQM) which is based on all interview results data and direct observations in the field. The task process before the implementation of the TQM system runs without clear and directed coordination between each service unit that is directly under the auspices of PLN UP3 Mataram which includes PLN ULP Ampenan and PLN ULP Gerung and PLN ULP Cakranegara and PLN ULP Tanjung so that the achievement of the main focus on the total satisfaction of all loyal customers of PLN UP3 Mataram is still not able to be realized optimally.

The company's management always schedules careful planning every week in the official forum of the Weekly Operations Meeting for each operational work program that has a huge impact on the achievement of the performance targets of the distribution section such as SAIDI and SAIFI as well as ENS by involving all cross-functional cross-

sectoral ranks including the distribution and engineering divisions of service and construction units as well as K3. The Weekly Operation Plan Minutes are the official forum to pour out all the important decisions of the forum, which will be directly used by field officers as the only standard reference in carrying out routine maintenance projects every week. The management of the distribution section proves the principle of continuous improvement in the implementation of Total Quality Management (TQM) through various systematic and planned efforts carried out to significantly reduce the number of disturbances in the power grid.

The limitation of the working area in each service unit before the implementation of this quality management system resulted in the capacity of the maintenance project to be very limited and not able to solve all the potential causes of damage to the power grid as a whole. The company changed its operational work pattern after the implementation of TQM was implemented by mobilizing a number of work teams from various service units under the auspices of PT PLN (Persero) UP3 Mataram so that the maintenance process could run in a much more integrated and effective manner. The integrated cooperation across units is very possible to increase the volume of maintenance work while accelerating the duration of solving various crucial problems that have the potential to trigger disruptions in the electricity distribution network system. The application of the principle of continuous improvement is ultimately not only fully oriented towards improving the quality of the internal work process but is also deliberately directed directly to boost the level of reliability in the electricity distribution system continuously.

The strong commitment to employee involvement and solid teamwork in the successful implementation of the power grid maintenance project is also very clearly reflected in the implementation of TQM in addition to being tangible evidence of continuous improvement. Each service unit shows their active participation by sending each field work squad to be directly involved in the implementation of the agenda of maintenance activities and tactical handling of power grid disruptions. The dispatch of various work teams from different service units succeeded in creating much neater operational work coordination and strengthening communication lines between teams while boosting the level of effectiveness of completing direct work in the field. The officers can immediately correct various

findings that indicate the potential for damage to the power grid at the same time through the use of this collaborative work pattern so that the problem management process becomes much faster and more efficient.

The implementation of the TQM quality management system proves that the real contribution made is not only focused on improving the quality of electricity distribution services but also succeeds in fostering a collective work culture that greatly supports the improvement of overall organizational performance and improves the quality of electricity distribution services and accelerates the handling of network disruptions and strengthens work coordination between employees in the distribution department. These findings support the Total Quality Management theory put forward by Goetsch and Davis that organizational quality can be achieved through the involvement of all organizational elements in the process of continuous quality improvement. In addition, Deming's theory also emphasizes the importance of continuous improvement and customer focus as the basis for increasing the effectiveness of public service organizations. The results of this study are consistent with the research of Talibonso et al. (2021) and Ciptaningtias et al. (2023) which shows that the implementation of TQM at PT PLN has an effect on improving service quality and organizational performance effectiveness. Supporting factors for the implementation of TQM in this study include management commitment, a good operational coordination system, employee discipline, and the implementation of clear operational standards. However, the study also found several obstacles in the implementation of TQM, such as limited field operational facilities, high service load due to the increasing number of customers, and technical factors of network disruption influenced by geographical and weather conditions in the electricity distribution service area.

### **Analysis of the Influence of TQM on Distribution Performance**

Overall, this research makes an important contribution to the development of quality management and operational management science, especially in the study of the implementation of Total Quality Management in public service companies in the electricity sector. This is reflected in the 2025 performance document related to the performance indicators of the distribution section, where the comparison of achievements to 2024 has experienced significant improvements.

**Table 2. Comparison of YOY Performance of UP3 Mataram Distribution Section**

Performance Indicators	Units	Polarities	Realization 2024	Realization 2025	Percentage of Repair (%)	Status
SAIDI	Minutes/Subscribers	Negatives	161,65	130,52	19	Performance Improvements
SAIFI	Times/Customers	Negatives	2,06	1,79	13	Performance Improvements
ENS	MWh	Negatives	728,22	240,82	66	Performance Improvements
Negative Feedback Rating	%	Negatives	0,03	0,007	76	Performance Improvements
Complaints of Repeated Harassment	%	Negatives	0,04	0,016	60	Performance Improvements

Source: UP3 Mataram Performance, 2025

The findings of the study at PT PLN (Persero) UP3 Mataram show an improvement in electricity distribution performance after the implementation of Total Quality Management (TQM), which is reflected in the decrease in all indicators of disruption and improvement in service quality. The presentation of operational data shows the fact that the SAIDI value has decreased from 161.65 to 130.52 minutes/customer, which means that it has penetrated the performance improvement rate of 19% and the SAIFI index has also declined from 2.06 to 1.79 times/customer or equivalent to a quality improvement rate of 13%. The management managed to record a very significant decrease in the ENS indicator from 728.22 MWh to 240.82 MWh with an improvement percentage achievement that touched 66%. The company's management also succeeded in minimizing the appearance of a negative "feedback rating" from 0.03 to 0.007 along with the number of repeated harassment complaints which also shrank from 0.04 to 0.016. The researcher considers that all these real achievements theoretically strengthen the foundation of the TQM concept put forward by Deming regarding the urgency of building service quality through "continuous improvement" instruments along with strict process control and full orientation to total customer satisfaction.

The real manifestation of the implementation of TQM within the scope of electricity distribution is reflected very clearly through the execution of network maintenance that runs more systematically and the acceleration of response to handling disturbances and the

implementation of periodic evaluations of distribution performance and strengthening of an internal work culture based on quality. This scientific finding is considered very much in line with the results of previous studies, according to Miranda Talibonso and Herman Karamoy and Stanly Alexander (2021) who emphasized how the implementation of various main elements of TQM which includes customer focus and continuous improvement as well as intensive training for employees has proven to be able to boost managerial performance at PLN South Manado. This success is considered to have strengthened the results of scientific studies According to Rahmat Dian Amir and Sri Indarti and Samsir (2021) who found the fact that the implementation of TQM has a very significant positive impact on managerial performance achievements through leadership instruments in PLN power plants. This entire series of proofs leads the research team to conclude that the results of data analysis in this study fully support the initial hypothesis regarding the positive influence of the implementation of TQM on the performance achievement of the distribution division of PT PLN (Persero) UP3 Mataram because all of the company's operational indicators are proven to show a consistent trend of quality improvement.

Experts view from a much broader perspective that the drastic decline in the parameters of SAIDI and SAIFI as well as ENS is concrete evidence that the implementation of TQM does not only touch the administrative aspect but also makes a very real contribution to the reliability of the electricity distribution system and the quality of public services on a macro level. The various theoretical foundations of "service quality" and "operational excellence" affirm that organizations that dare to adopt a comprehensive quality culture will always be able to reduce service failure rates and increase operational efficiency and strengthen customer satisfaction. The relevance of the results of this study seems very clear when juxtaposed with the results of scientific studies, according to Bill Rotinsulu and Paulus Kindangen and Jessy Pondaag (2021) who explained that the conditioning of TQM in PLN's internal environment has been proven to be able to raise the standards of quality culture and active involvement of employees in order to achieve much better service standards.

The success of management in cutting the negative "feedback rating" to a percentage of 76% proves that the customer community directly feels the improvement in the quality of public services, especially

related to aspects of the speed of handling disturbances and the stability of electrical energy supply to homes. The decrease in the number of complaints of repetitive disturbances which touched a percentage of 60% also confirms the effectiveness of the implementation of the "preventive maintenance" and "continuous improvement" approaches, which are actually the main spirit in the TQM system. The researcher realizes that the results of this study cannot be generalized absolutely to all units due to several internal limitations which include the concentration of the research site which only relies on one PLN distribution unit and the limitation of the duration of observation time as well as the large number of opportunities for intervention of external factors such as fluctuations in weather conditions and network load as well as infrastructure investments that also affect distribution performance. This limited perspective is considered to be very relevant to the results of research According to Magdalena Monica Wahani and Sifrid Pangemanan and Sherly Pinatik (2021) which shows a phenomenon that in certain organizational contexts the implementation of TQM does not always have a significant partial influence on employee work performance if management does not support it with an adequate reward system and a strong organizational culture. The totality of implementation and consistency of implementation and full commitment from the management ranks as well as the active involvement of all elements of human resources as a whole are ultimately the factors that determine the level of effectiveness of the TQM system itself.

The entire research team believes that the results of this scientific study are able to make a very important contribution to the treasure of operational management and quality management science development, especially within the scope of the electricity industry. This research academically succeeded in strengthening the scientific argument that TQM plays a role as a strategic approach that is very relevant in boosting the performance of public service organizations based on the use of technology and infrastructure. PLN's management can use the results of this study as the main foundation in formulating various strategic policies to improve the "reliability index" and develop a customer service strategy formula based on high quality.

The opportunities for further research are now very wide open to future researchers, for example by integrating some crucial mediating variables such as transformational leadership and organizational culture

and "digital quality management" or customer satisfaction levels in order to dissect the much more complex patterns of relationship between TQM and distribution performance. Future researchers are also advised to apply a longitudinal approach with the expansion of the scope of the observation area in order to be able to capture a real picture of the implementation of TQM nationally in all electricity sectors in Indonesia. Overall, the results of the analysis in this research confirm that the adoption of the TQM system at PT PLN (Persero) UP3 Mataram has been proven to be able to increase operational efficiency and minimize distribution disruptions as well as strengthen the quality of customer service in order to support PLN's major transformation process towards a modern utility company that is fully oriented towards high quality and total customer satisfaction.

## CONCLUSION

Based on the results of the research, it can be concluded that the implementation of Total Quality Management (TQM) in the distribution section of PT PLN (Persero) UP3 Mataram has a positive influence on improving the performance of the distribution section. The research findings show that TQM's key principles such as customer focus, continuous improvement, teamwork, employee engagement, and quality control have been implemented in real terms in the company's operational activities. The implementation has been proven to be able to increase service effectiveness as shown through a decrease in the performance value of SAIDI by 19%, SAIFI by 13%, and ENS by 66%, as well as a decrease in negative feedback ratings and complaints of repeated interruptions compared to the previous year. In addition, employee work productivity and the achievement of operational targets also showed good results through the achievement of all distribution performance indicators in 2025. The results of this study support the research hypothesis that the implementation of TQM has an effect on improving the performance of the distribution section at PT PLN (Persero) UP3 Mataram. The results of this research data analysis are considered to be able to strengthen the foundation of the TQM concept. According to Deming and Goetsch and Davis theoretically stating that the instrument of "continuous improvement" along with "customer focus"

and active involvement of all elements of the organization can significantly boost the quality of the organization.

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