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Electric Power Industry: Relationship Between Total Quality Management (TQM) and Organizational Performance of Conformity Assessment Body in The Industry

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ABSTRACT

The Indonesian government has increased fuel prices through Decree 218.K/MG.01/MEM.M/2022. This is in response to an increase in the energy subsidy budget of IDR 502.4 trillion. Additionally, current geopolitical conditions have greatly influenced the price of energy commodities in the world market. This has caused the government to change fossil fuel usage to electrical energy. This study aims to analyze the relationship between the implementation of TQM and organizational performance in PT XYZ, as well as identify the elements of TQM that have the most significant impact on improving organizational performance. By understanding this relationship, this research is expected to provide recommendations for PT XYZ to enhance its competitiveness and operational effectiveness. The research method used is a survey by distributing questionnaires to PT XYZ employees. The data obtained was analyzed using the Structural Equation Model (SEM) method to test the correlation between variables. The study results show that implementing TQM positively and significantly affects organizational performance. Factors such as top management commitment, quality awareness, communication, and employee engagement have a dominant role in improving job satisfaction and the company's business results. The conclusion of this study confirms that TQM can be an effective strategy for increasing organizational competitiveness by improving customer satisfaction and service quality. The implications of this study highlight the importance of strengthening relationships with external providers to increase competitive advantage. In addition, the management of PT XYZ is advised to maintain a quality culture and management system that has been proven to positively impact the company's performance.

Introduction

Total Quality Management (TQM) has become the leading paradigm in improving the quality and performance of organizations in various industrial sectors, including the power industry (Syafi'i & Fitriyah, 2020) (Niyi Anifowose et al., 2022). With the increasing demands on the quality of products and services, organizations worldwide are adopting the TQM approach to improve competitiveness (DS et al., 2024). One of the

global issues underlying the implementation of TQM in the electric power industry is the transition from fossil fuels to electrical energy. This is triggered by environmental policies and global geopolitical changes that impact energy price fluctuations.

In addition, the electric power industry faces challenges in maintaining safety standards and service quality. (Parvin et al., 2022). Global standards such as ISO 9001 are the primary reference in implementing quality management systems to ensure regulatory compliance and customer satisfaction. With the increasing complexity of electric power systems, applying TQM is becoming increasingly relevant in improving the efficiency and effectiveness of organizations engaged in electricity certification and testing.

The Indonesian government has increased fuel prices with Minister of Energy and Mineral Resources Decree Number 218.K/MG.01/MEM.M/2022 concerning Retail Selling Prices for Certain Types of Fuel Oil and Special Types of Fuel Oil for Assignments. (Lukman, 2023; Rahayu, 2023; Tadete, 2022; Yuyun & Mudofir, 2023). This is in response to the IDR 502.4 trillion increase in the energy subsidy budget. This is calculated using Pertalite sales volume data, which is predicted to reach 29 million kL, while Solar with subsidies sales volume reaches 17.44 million kL. The average calculated Indonesian Crude Price can reach US$ 105/barrel with an exchange rate of IDR 14,700/US$. However, the Indonesian Crude Price reduction to US$90/barrel in December 2022 caused the average to reach US$99/barrel in one year.

The average Indonesian crude price still reaches US$97/barrel, assuming the price falls below US$90/barrel. If the Indonesian Crude Price averages US$99/barrel, the subsidy increase rate will still increase from IDR 502 trillion to IDR 653 trillion. Meanwhile, if by December 2022, the Indonesian Crude Price is at US$85/barrel, the subsidy increase will reach IDR 640 trillion (Kementerian Keuangan Republik Indonesia Manajemen Situs Kemenkeu, 2022).

In addition, world geopolitical conditions are uncertain; for example, the war between Russia and Ukraine greatly influenced the price of energy commodities on the world market. This is the background for the government to reduce fuel consumption to a more flexible type of energy, namely electrical energy. The government regulation regarding the Acceleration of the Battery Electric Vehicle (BEV) Program for Road Transportation is one of the government's policies regarding converting fuel use to electrical energy, as stated in Presidential Regulation 55 of 2019. It also promotes using electric stoves as a substitute for stoves. Gas or oil fuel is also a policy to reduce the use of increasingly expensive fossil energy. The growth in electrical energy use in the optimistic scenario reaches 409 TWH in 2030, while in the moderate scenario it is estimated that electricity use in 2030 will reach 390TWH compared to 2021 which will be 253-256 TWH (Keputusan Menteri Energi Dan Sumber Daya Mineral Republik Indonesia - Pengesahan Rencana Usaha Penyediaan Tenaga Listrik PT Perusahaan Listrik Negara (Persero) Tahun 2021 Sampai Dengan Tahun 2030, 2021). Seeing these conditions, the electricity sector will experience extraordinary growth.

With the development of the electricity sector, which will slowly replace fossil fuels as an energy source, issues related to electricity safety, both in terms of installation, product, and material quality, up to the management system of service providers and electricity material producers, must become a top priority in the development of the industry. Several regulations that the government has issued to maintain the reliability and safety of electrical installations and products are as follows:

1. UU no. 30 of 2009 concerning Electricity, PP no. 23 of 2014 concerning Amendments to PP No. 14 of 2012, which regulates Electric Power Supply Business Activities, states that every operating electric power installation is required to have a Certificate of Operational Worthiness (SLO). The Technical Inspection Institute must issue SLOs with the Government's appointment to conduct operational feasibility inspections of electrical installations installed in buildings. The government ensures electrical safety in every existing electrical installation.
2. Regulation of the Minister of Industry of the Republic of Indonesia Number 57/M-IND/PER/5/2012 concerning Amendments to Regulation of the Minister of Industry Number 50/M-IND/PER/5/2011 concerning Mandatory Implementation of the Indonesian National Standard (SNI) for Cables which was stipulated on 9 May 2011 and has been in effect since it was promulgated on May 14, 2012.
3. Regulation of the Minister of Energy and Mineral Resources of the Republic of Indonesia No. 7 of 2021 states the obligation to fulfill SNI for electric power installation systems, electric power equipment products, and products that utilize electric power (Peraturan Menteri Energi Dan Sumber Daya Mineral Republik Indonesia - Standardisasi Di Bidang Ketenagalistrikan Dan Pembubuhan Tanda Standar Nasional Indonesia Dan/Atau Tanda Keselamatan, 2021).

Standardization and certification regulations from the above sources will increase the role of the Conformity Assessment Institute (LPK) and become increasingly vital in maintaining electricity safety and the quality of electricity products/services—PT XYZ, the implementing unit of PT ABC holding. As an accredited LPK, PT XYZ can implement a general or quality management system based on ISO 9001 (International Organization for Standardization, 2015). ISO 9001 is part of the ISO 9000 standard, a reference for implementing quality management systems in manufacturing and service companies closely related to TQM (Sfreddo et al., 2021)(Rogala & Wawak, 2021).

In recent years, total quality management (TQM) has attracted the attention of practitioners, managers, and researchers because, based on this research, it significantly impacts performance, customer satisfaction, and company profits. (Puthanveettil et al., 2021)Initially, TQM practices were mainly applied to the manufacturing sector, but because of their significant impact, managers and researchers tried to apply TQM to the service sector. (Jaca & Psomas, 2015)(Bouranta et al., 2019). Many large organizations worldwide apply TQM as a management tool to improve service quality. (Jaca & Psomas, 2015)(Talib et al., 2010)(Nasim, 2018). So, it is essential to know the relationship between the implementation of TQM at PT XYZ.

This study's uniqueness lies in its focus on assessing the relationship between TQM practices and organizational performance at PT XYZ, an accredited Conformity Assessment Institute (CAB). While previous studies have examined TQM in the manufacturing and service industries, this study provides empirical evidence of how TQM principles can improve quality management and operational outcomes in the TIC sector, particularly in industries undergoing rapid transformation.

The urgency of this research arises from the increasing demand for high-quality conformity assessments in the electric power industry. As electricity usage increases, ensuring compliance with safety standards and regulatory requirements is essential. Understanding the impact of TQM on organizational performance can provide valuable insights for policymakers, industry practitioners, and regulatory bodies to improve quality assurance frameworks.

This study analyzes the correlation between TQM practices and organizational performance in PT XYZ. Specifically, the study seeks to evaluate how various elements of TQM, such as leadership commitment, employee engagement, process management, and continuous improvement, contribute to improving business performance and customer satisfaction in the conformity assessment sector. This research is expected to be useful academically by enriching quality management knowledge in the TIC sector. For practitioners, this study recommends implementing TQM to improve efficiency and services. Policymakers can leverage it to refine the power industry's quality and compliance standards.

Method

In this research, the author conducted a literature study to determine the TQM elements that will be studied. Data collection will be carried out using a survey method, which will then be processed using the SEM method to determine the relationship between the variables that have been chosen. Research data was obtained using a survey method for the target sample according to the recommendations in the previous discussion. The questionnaire created is divided into three parts: the first is related to a brief explanation of TQM and SEM, the second part is an identity of respondents, and the third is TQM construction and organizational performance.

A Likert scale rating of one to five represents strongly disagree, agree, unsure, agree, and strongly agree. The pretest survey was conducted to determine the performance of the questions asked and then adjusted to the actual survey process.

After the data was collected, the analysis was carried out using SEM-PLS to test the relationship between latent variables consisting of 12 TQM indicators and four organizational performance indicators. The measurement model (outer model) is evaluated by assessing the loading factor, convergence validity, and composite reliability. The analysis results show that all indicators have a loading factor above 0.7, which indicates that the indicator can explain the latent variables well. In addition, all variables have an Average Variance Extracted (AVE) value above 0.5, which means good convergence validity, and a Composite Reliability (CR) value above 0.7, which indicates high internal reliability.

Furthermore, the structural model (inner model) was evaluated to measure how much exogenous variables can explain endogenous variables using the R-Square (R^2)

value. The analysis showed that all R^2 values were above 0.75, indicating a strong relationship between the variables. In addition, the Q^2 Predictive Relevance value is in the $0 < Q^2 < 1$ range, which suggests that the model has good predictive ability. Hypothesis testing is carried out using bootstrapping techniques by looking at t-statistics and p-value values, where the hypothesis is accepted if the t-statistic value is more significant than 1.96 and the p-value is less than 0.05. The results of this study show that all hypotheses are accepted with a positive correlation between TQM implementation and organizational performance. The SEM-PLS method in this study provides an in-depth understanding of the relationship between TQM and organizational performance. It can help strategic decision-making improve company operations quality and efficiency.

Results and Discussion

Respondent Characteristics

The questionnaire adjustment process was carried out after the pretest questionnaire was carried out on a smaller number of samples, namely 27. In the Pretest, a survey was carried out using a printed questionnaire form; the subsequent survey was done online using a Google form. The survey was carried out between 13 and 15 March 2023; during this period, data was obtained from 106 respondents who were employees of PT XYZ, both organic and outsourced. The amount of data exceeded the recommendation, namely 52 samples. (Sarstedt et al., 2021).

Here are the research results and a discussion of them. If necessary, you can use the subheadings-like format elaborated on above. If you need to use a table or figure, you must use the table format and images as outlined above.

Data Analysis

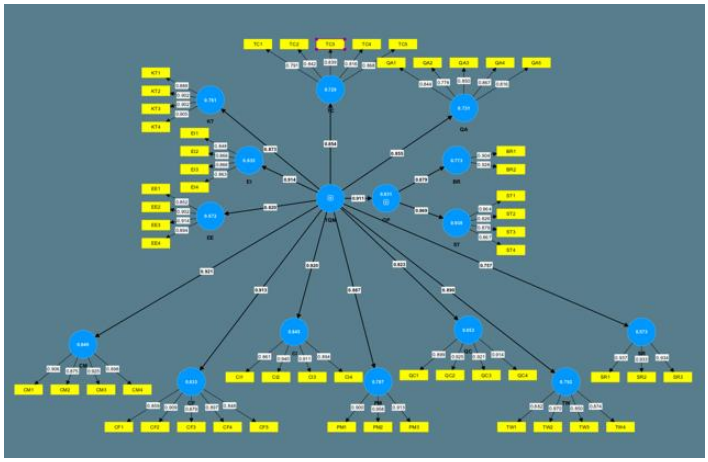


Figure 2. SEM-PLS model in smart
Source: Writer

Figure 2 shows 16 latent variables: QA, TC, KT, EI, EE, CM, CF, CI, PM, QC, TW, SR, TQM, OP, BR, and ST. Each variable has indicators to assess its influence on the other latent variables. The TQM and OP latent variables are second-order components, as explained in Figure 4.2, so they have all the indicators of the endogenous latent variables.

Evaluation of the measurement model (outer model) Stage 1

1. **Loading**

   The acceptable loading value is at least 0.7 because, according to this figure, at least 50% of the variability of an indicator has been absorbed by (Sanchez, 2013)Alternatively, 50% of the variation of an indicator can be explained by the latent variable. (Hair et al., 2017)The table in Appendix 2 shows that all indicators and latent variables have loading values >0.7. This means that the latent variable can explain all indicators.

2. **Convergent Validity with Average Variance Extracted value**

   The table below shows that all constructs or variables have a value of >0.5, so it can be concluded that the latent variables can absorb variations in the indicators well. QA, TC, KT, EI, EE, CM, CF, CI, PM variables, QC, TW, SR, TQM, OP, BR, and ST are good at representing the indicators.

Table 3. AVE Value

Indicator Variables	Average variance extracted (AVE)
Business Results	0.839
Communications	0.812
Continuous Process improvement	0.814
Customer Focus	0.772
Employee encouragement	0.793
Employee involvement	0.741
Knowledge and training	0.808
Organizational Performance	0.677
Process Management	0.854
Quality Awareness	0.692
Quality System and Culture	0.837
Satisfaction results	0.738
TQM	0.604
Team Work	0.755
Top management commitment	0.692
supplier relations	0.874

Source: Research Calculation, 2024

3. Composite Reliability

The CR value assesses the reliability of internal consistency; a CR value> 0.7 is acceptable.

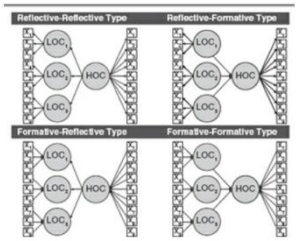
Table 4. Composite Reability Value

Indicator Variables	Composite reliability (rho_a)
Business Results	0.819
Communications	0.923
Continuous Process improvement	0.926
Customer Focus	0.928
Employee encouragement	0.915
Employee involvement	0.884
Knowledge and training	0.922
Organizational Performance	0.906
Process Management	0.918
Quality Awareness	0.888
Quality System and Culture	0.935
Satisfaction results	0.882
TQM	0.987
Team Work	0.894
Top management commitment	0.893
supplier relations	0.928

Source: Research Calculation

4. Evaluation of the measurement model (outer model) stage 2

In evaluating the second stage of the measurement model, the focus is on higher-level variables, namely TQM variables and OP variables. These variables are reflective, whereas, in the calculations in the SmartPLS application, all indicators on the Lower-Order Component (LOC) that are reflective are also considered indicators on the Higher-Order Component (HOC) that are also reflective. (Hair et al., 2017).



Note: LOC = lower-order component; HOC = higher-order component.

Figure 1Types of Hierarchical Component Models

Source: Hair et al., 2017

5. TQM variables

All loading values on the TQM variable indicators are >0.7. Composite Reliability is also 0.987, with a recommended minimum requirement of 0.7 and a minimum limit value of 0.5. The research results' Average Variance Extracted (AVE) value was 0.604.

Table 5. Evaluation of the measurement model (outer model) stage 2 for TQM Indicators

Indicator Variables	Outer loading	Composite Reliability	Average Variance Extracted (AVE)
Communications	0.921	0.987	0.604
Continuous Process improvement	0.920		
Customers Focus	0.913		
Employees encouragement	0.820		
Employees involvement	0.914		
Knowledge and training	0.873		
Process Management	0.887		
Quality Awareness	0.855		
Quality System and Culture	0.923		
Team Work	0.890		
Top management commitment	0.854		
Suppliers relations	0.757		

Source: Research Calculation

6. OP Variables

The AVE value for the OP variable is 0.677, which is above the recommended value of 0.5. The Composite Reliability value, with a minimum limit of 0.7 in the research, reached 0.906. Meanwhile, the loading value of the Business Result indicator is lower than that of the Satisfaction Result indicator, namely 0.879 versus 0.969. However, both loading values are still above the recommended limit of 0.7.

Table 6. Evaluation of the measurement model (outer model) stage 2 for OP Indicators

Indicator	**Outer loading**	**Composite Reliability**	**Average Variance Extracted (AVE)**
Business Results	0.879	0.906	0.677
Satisfaction results	0.969		

Source: Research Calculation

Evaluation of the structural model (inner model)

1. R-Square (R^2)

The R2 value shows how much the exogenous variable can explain the endogenous variable. The R 2 value for each variable is in the table below. The overall justification is substantial, with a value above 0.75.

Table 7. R Square Value

	R-square	**R-square adjusted**	**Justification**
Business Results	0.773	0.770	Substantial
Communications	0.849	0.847	Substantial
Continuous Process improvement	0.845	0.844	Substantial
Customers Focus	0.833	0.831	Substantial
Employees encouragement	0.672	0.668	Substantial

	R-square	R-square adjusted	Justification
Employees involvement	0.835	0.834	Substantial
Knowledge and training	0.761	0.759	Substantial
Organizational Performance	0.831	0.829	Substantial
Process Management	0.787	0.785	Substantial
Quality Awareness	0.731	0.728	Substantial
Quality System and Culture	0.853	0.851	Substantial
Satisfaction results	0.938	0.938	Substantial
Team Work	0.792	0.790	Substantial
Top management commitment	0.729	0.726	Substantial

Source: Research Calculation

2. **Q^2 Predictive Relevance**

Presented in the table, the entire variable or construct shows the value $0 < Q^2 < 1$.

Table 8. Q Square Value

	Q^2predict
Business Results	0.553
Communications	0.858
Continuous Process improvement	0.847
Customers Focus	0.850
Employees encouragement	0.689
Employees involvement	0.855
Knowledge and training	0.781
Organizational Performance	0.851
Process Management	0.802
Quality Awareness	0.744
Quality System and Culture	0.853
Satisfaction results	0.853
Team Work	0.815
Top management commitment	0.750
suppliers relations	0.567

Source: Research Calculation

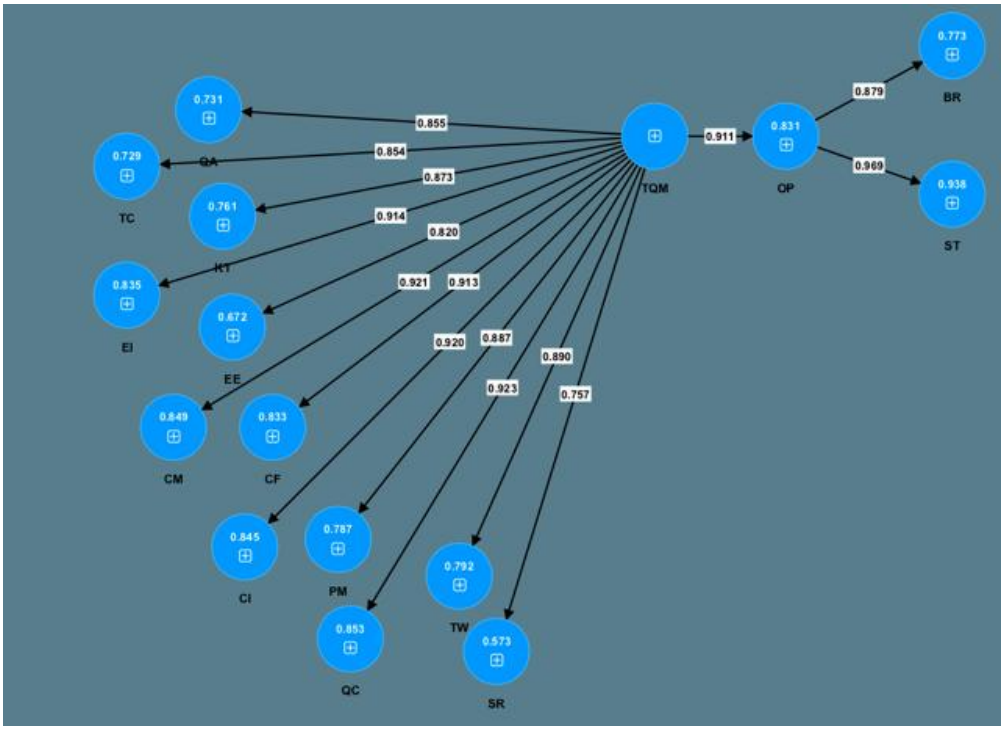


Figure 4. Bootstrapping smart PLS analysis
Source: Writer

Hypothesis Testing

In hypothesis testing, when a t-statistic value is >1.96, it can be assumed that this variable significantly influences the variable a, which is connected to it. (Hair et al., 2017). Meanwhile, the p-value must reach <0.05 to show the required. (Hair et al., 2017) Significance: The p-value is the probability that the hypothesis will get the H0 value. The calculation results in the table and image below show that the t-statistic and p-value have met the two criteria above, so it can be concluded that the entire hypothesis can be accepted.

Table 9. Hypothesis Testing Value

	Original sample (O)	Samples mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
Organizational Performance -> Business Results	0.893	0.891	0.029	30,651	0,000
Organizational Performance -> Satisfaction results	0.972	0.970	0.010	96,332	0,000
TQM -> Communication	0.927	0.922	0.026	34,992	0,000
TQM -> Continuous Process improvement	0.924	0.921	0.025	36,401	0,000
TQM -> Customer Focus	0.917	0.909	0.032	28,670	0,000
TQM -> Employees encouragement	0.837	0.824	0.063	13,324	0,000

	Original sample (O)	Samples mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
TQM -> Employee involvement	0.917	0.907	0.040	23,062	0,000
TQM -> Knowledge and training	0.877	0.866	0.049	17,957	0,000
TQM -> Organizational Performance	0.917	0.908	0.036	25,380	0,000
TQM -> Process Management	0.893	0.885	0.041	21,910	0,000
TQM -> Quality Awareness	0.858	0.841	0.079	10,847	0,000
TQM -> Quality System and culture	0.925	0.923	0.027	34,060	0,000
TQM -> Team Work	0.901	0.890	0.043	20,975	0,000
TQM -> Top Management Commitment	0.860	0.844	0.064	13,445	0,000
TQM -> Suppliers Relations	0.756	0.750	0.084	8,949	0,000

Source: Research Calculation

H1 Quality Awareness (QA) in the implementation of TQM is positively correlated with organizational performance (OP) at PT XYZ, confirmed positive and significant with a t- t-statistical value of 10.847 and a P-value of 0.000 in research conducted by Puthanveettil et al., (2021) This research explains the importance of Quality Awareness in successfully implementing TQM in manufacturing and service companies. It can also be concluded that this validly happened at PT XYZ. With a loading value of 0.855, this variable shows a strong relationship with the TQM variable.

H2 Top management commitment (TC) in implementing TQM is positively correlated with organizational performance (OP) at PT XYZ, confirmed positive and significant with a t- t-statistic value of 13.445 and a P-value of 0.000. On research (Puthanveettil et al., 2021) (Singh et al., 2018). Top Management Commitment positively affects the implementation of TQM by taking on leadership functions. With the statistical t-value and P-value mentioned previously, it can be concluded that this also happened at PT XYZ. This variable's loading value of 0.854 strongly correlates with the TQM variable.

H3 Knowledge and training (KT) in implementing TQM is positively correlated with organizational performance (OP) at PT XYZ, confirmed positive and significant with a t- t-statistic value of 10.847 and a P-value of 0.000. This element aims to disseminate information regarding how to achieve the quality of services. This element is also essential in maintaining high quality in the industry. (Nasim, 2018). The results of this research are also in line with previous research; there is a positive correlation between knowledge and training on quality performance. (Delic et al., 2014). The panel research explains that the loading value 0.873 shows a strong relationship.

H4 Employee Involvement (EI) in implementing TQM is positively correlated with Organizational Performance (OP) at PT XYZ, confirmed positive and significant with a t- t-statistic value of 23.062 and a P-value of 0.000. Research shows the same results as the conclusions given by (Puthanveettil et al., 2021) (Singh et al., 2018) Much literature recommends the commitment and involvement of all staff in implementing TQM. (Puthanveettil et al., 2021)With a loading value of 0.914, this element strongly correlates with TQM practices. To support this aspect of TQM, all individuals in the organization are expected to contribute to carrying out their duties without errors and bring positive ideas to improve their work. (Slack & Lewis, 2018).

H5 Employee Encouragement (EE) in implementing TQM positively correlates with Organizational Performance (OP) at PT XYZ. This element has a t-statistic value of 13.324 and a p-value of 0.000; this value confirms this hypothesis positively and significantly. This element focuses on giving appreciation and appreciation to employees, with the hope of encouraging them to continue to show their performance. (Puthanveettil et al., 2021). The loading value of 0.820 is lower than the Employee Involvement loading value but still shows a strong correlation. Employee motivation is positively related to company success. (Salaheldin, 2009).

H6 Communication (CM) in implementing TQM is positively correlated with organizational performance (OP) at PT XYZ, confirmed positive and significant with a t-t-statistic value of 34.992 and a P-value of 0.000. Effective communication methods will have a good impact on employee engagement and customer satisfaction, which will improve the performance of the organization in the future (Lam et al., 2012). The loading value for this hypothesis is 0.921, indicating a strong correlation between Communication and TQM.

H7 Customer Focus (CF) in implementing TQM is positively correlated with organizational performance (OP) at PT XYZ, confirmed positive and significant with a t-t-statistical value of 28.670 and a P-value of 0.000. This hypothesis is in line with previous research from (Singh et al., 2018) (Puthanveettil et al., 2021)Compared to the manufacturing sector, the service sector depends on this customer-focus aspect. In this research, the customer-focus element received a loading value of 0.913, which proves a strong correlation between this aspect and TQM. In TQM, meeting customer expectations is not just meeting customer needs; the entire organization must understand the importance of customers for the success and sustainability of the organization, and customers should be seen as an essential part of the organization. (Slack & Lewis, 2018).

H8 Continuous Process Improvement (CI) in implementing TQM positively correlates with organizational performance (OP) at PT XYZ, confirmed positive and significant with a t- t-statistic value of 36.401 and P-value 0.000. Continuous Process Improvement is a general theory in the application of TQM; the results of this research show the same thing as those of research from (Puthanveettil et al., 2021) (Singh et al., 2018). This element aims to improve processes by improving organizational methods in converting input into sound output (Puthanveettil et al., 2021). The loading value for this element is 0.920, which indicates a strong correlation with TQM. One of the processes

for continuous improvement is implementing the quality management system in the ISO 9000 series. Assessment of quality standards and organizational procedures from third parties is essential to ensure that the system being built does not experience setbacks. (Slack & Lewis, 2018).

H9 Process Management (PM) in implementing TQM positively correlates with Organizational Performance (OP) at PT XYZ, confirmed positive and significant with a t-t-statistic value of 21.910 and a P-value of 0.000. The loading value of 0.887 also strongly correlates with the TQM variable, impacting organizational performance. The process management system implemented must be able to increase employee efficiency while continuing to improve performance. (Voon et al., 2014)A standardized system in the ISO 9000 series can be used to implement a system for this management process.

H10 Quality System and culture (QC) in implementing TQM is positively correlated with organizational performance (OP) at PT XYZ, confirmed positive and significant with a t- t-statistic value of 34.060 and a P-value of 0.000. A good environment will support the implementation of TQM somewhere in the organization (Nasim, 2018)This research shows a loading value of 0.923, indicating a strong correlation with this hypothesis. At PT, the quality system and culture are developed in these conditions. (Puthanveettil et al., 2021).

H11 Team Work (TW) in the implementation of TQM is positively correlated with organizational performance (OP) at PT XYZ, confirmed positive and significant with a t-t-statistical value of 20.975, a P-value of 0.000 and a loading value of 0.890, providing information that this hypothesis has a reasonably strong correlation. Implementing the right teamwork strategy can increase efficiency and improve activities that support quality. (Rosen et al., 2018). Building a team within the company is essential in successfully implementing TQM.(Jong et al., 2019)(Bouranta et al., 2017)

H12 Supplier Relations (SR) in implementing TQM is positively correlated with organizational performance at PT XYZ, confirmed positive and significant with a t- t-statistic value of 8.949 and a P-value of 0.000. This research concludes that Supplier Relations through the implementation of Supplier Quality Management is an integrated element in the TQM system to improve company performance (Singh et al., 2018). Building good relationships with suppliers will provide long-term cooperation and relationships. Providing opportunities to participate in product design activities and production processes so that suppliers can improve the quality of the materials or services they provide will increase the company's competitive advantage. The loading value of 0.757 shows a reasonably strong correlation between Supplier Relations in implementing TQM and organizational performance. However, this correlation is at the lowest level, especially at PT XYZ.

H13 The application of TQM as a set of activities has a direct and positive impact on Organizational Performance (OP) with a t-statistic value of 25.380 and a P-value of 0.000, which is acceptable and positive. This was also concluded in previous research (2021). The application of TQM can improve organizational performance. The Loading value of 0.911 strongly correlates with TQM implementation and Organizational

Performance. Previous studies have also shown the same thing as this research. (Puthanveettil et al., 2021).

H14 Satisfaction Result (ST) is positively correlated with Organizational Performance (OP), confirmed positive and significant with a t- t-statistic value of 96.332 and a P-value of 0.000. Employees who are satisfied with their company will work better to improve its quality and productivity; better quality will lead to customer trust and loyalty, and satisfied customers will increase company growth. The loading value of 0.969 is higher than the Business Results variable, indicating that this variable significantly influences organizational performance.

H15 Business Results (BR) are positively correlated with Organizational Performance (OP), confirmed positive and significant with a t- t-statistic value of 30.651 and a P-value of 0.000. Business Results relate to financial terms such as sales, exports, and profits. Just like previous research, TQM will significantly improve the company's business performance both financially and non-financially (Singh et al., 2018)Even though its loading value is 0.879, which is lower than that of the Satisfaction Result variable, this variable still has a reasonably strong correlation with organizational performance.

From the research results, it can be concluded that PT in the manufacturing and service industry in India is 0.89 (Singh et al., 2018)This data shows that PT XYZ's implementation of TQM can improve its organizational performance compared to the two previous studies.

Meanwhile, for the TQM element, the lowest loading value in this study was Supplier Relations at 0.757, and the highest was 0.923 for the Quality System and Culture element. Previous research in the Indian hospital industry had the lowest loading value on the TQM element for the Quality Awareness element at 0.356 and the highest for Top Management Commitment with a value of 0.365 (Puthanveettil et al., 2021). In research Singh et al.In the Indian manufacturing and service industry, the TQM element that got the lowest correlation value was the Knowledge and Training element with a loading value of 0.47, and the highest was the same as the research, Puthanveettil et al.It is the Top Management Commitment with a value of 0.77. PT XYZ management should pay attention to this condition so that relationships with external providers can be further developed. The Organizational Performance variable has two indicators: Business Results and Satisfaction Results. All studies have the same pattern where the correlation between OP and SR is higher than that of BR.

Conclusion

Results of calculations, analysis, and discussion of data obtained from the research process, conclusions can be drawn from this research: a) As seen in Figure 4, all variables and indicators show a strong correlation with loading values above 0.6. b) Hypotheses H1 to H15 have a p-value of less than 0.05, so it can be concluded that the possibility of the hypothesis getting H0 will be minimal so that all the hypotheses developed fail to be rejected as in the data presented in Table 9. c) The TQM elements at PT XYZ Quality

System and Culture with a value of 0.923 and the lowest is Supplier Relations with a loading value of 0.757. d) The correlation between TQM implementation and organizational performance has a value of 0.911, which is a high level of correlation because it has a value of more than 0.6. e) Meanwhile, the Organizational Performance indicator at PT XYZ with the most correlation is the Satisfaction Result, with a loading value of 0.969, compared to the Business Result variable, which has a loading value of 0.879. This shows that applying TQM has the most influence on increasing customer and product quality satisfaction.

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