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Soft TQM's Effect on Employee Job Satisfaction and Performance at An Indonesian Oil and Gas Company

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Abstract

The rapid economic and industrial expansion has led to increased global corporate competitiveness, forcing organizations to constantly improve their effectiveness and sustainability. Total Quality Management (TQM) is recognized as a process that enhances individual and organizational performance, competitive advantage, and customer satisfaction. Despite its recognized value, the implementation of soft TQM practices remains underexplored in high-risk and heavily regulated sectors such as the oil and gas industry, especially within the Indonesian. PT XYZ, an oil and gas company in Indonesia, has implemented TQM. However, the company continues to face operational issues including unmet departmental targets and the lack of implementation of essential work-related innovations. This study investigates the influence of soft TQM on Employee Job Satisfaction (EJS) and Employee Performance (EP), and examines EJS as a mediating variable. Data were collected through questionnaires using a Likert scale and analyzed using PLS-SEM with SmartPLS 4. The results indicate that soft TQM significantly and positively affects both EJS and EP, and that EJS significantly mediates the relationship between soft TQM and EP. The study contributes to TQM theory by extending its application to an underrepresented industrial and national context, and by emphasizing the importance of human-centered practices in improving individual performance outcomes. It also highlights the need for tailored quality strategies to address challenges such as workforce diversity, operational complexity, and innovation implementation in the oil and gas sector.

Keywords: Employee Job Satisfaction, Employee Performance, PLS-SEM, Soft Total Quality Management

Abstrak

Ekspansi ekonomi dan industri yang pesat telah meningkatkan daya saing perusahaan secara global, sehingga organisasi dituntut untuk terus meningkatkan efektivitas dan keberlanjutannya. Total Quality Management (TQM) diakui sebagai proses yang meningkatkan kinerja individu dan organisasi, keunggulan dalam daya saing, dan kepuasan pelanggan. Meskipun manfaatnya telah banyak diakui, penerapan praktik soft TQM masih jarang diteliti di sektor yang berisiko tinggi dan memiliki banyak regulasi seperti industri minyak dan gas, khususnya di Indonesia. PT XYZ, sebuah perusahaan minyak dan gas di Indonesia, telah menerapkan TQM. Namun, perusahaan ini masih menghadapi berbagai kendala operasional seperti target departemen yang tidak tercapai dan proses yang diperlukan untuk menerapkan inovasi belum diimplementasikan. Penelitian ini mengkaji pengaruh soft TQM terhadap Kepuasan Kerja Karyawan (EJS) dan Kinerja Karyawan (EP), serta menguji EJS sebagai variabel mediasi. Data dikumpulkan melalui kuesioner dengan skala Likert dan dianalisis menggunakan metode PLS-SEM dengan menggunakan SmartPLS 4. Hasil penelitian menunjukkan bahwa soft TQM berpengaruh positif dan signifikan terhadap EJS dan EP, serta EJS secara signifikan memediasi hubungan antara soft TQM dan EP. Penelitian ini memberikan kontribusi terhadap pengembangan teori TQM dengan memperluas aplikasinya ke dalam konteks industri dan nasional, serta menekankan pentingnya praktik yang berpusat pada manusia dalam meningkatkan hasil kinerja individu. Penelitian ini juga menyoroti perlunya strategi mutu yang disesuaikan untuk mengatasi tantangan seperti keragaman tenaga kerja, kompleksitas operasional, dan penerapan inovasi di sektor minyak dan gas.

Kata kunci: *Employee Job Satisfaction, Employee Performance, PLS-SEM, Soft Total Quality Management*

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Introduction

The intense competitive business environment, stringent international environmental regulations, and rising consumer concerns about the quality and features of the products are forcing companies to adhere to business practices including Total Quality Management (TQM). TQM has mainly been acknowledged as a process that has the ability to enhance individual and organizational performance as well as competitive advantage. It is not only raising the corporate profitability but also the satisfaction of employees (Abbas, 2020). Based on Ralahallo et. al. (2023), it is important for the company to measure the TQM in order to be a sustainable company and have long-term profitability.

Employees are essential to the execution of organizational strategies. The effectiveness and productivity of an organization are gauged by the performance of its employees. Employee performance is defined as the outcomes of an employee's activities using their abilities in a variety of circumstances. Completing tasks within the defined time frame, being competent, and working effectively and efficiently are all considered aspects of employee performance (Srimulyani et.al., 2023). The indicators to measure employee performance according to the research of Chen & Wei (2020) include task completion rate, performance standards compliance, job responsibilities fulfillment, essential task compliance, and priority task execution. High performance at work raises an employee's ability to compete, helps them reach specific goals, and improves their sense of self-worth and job satisfaction (Akgunduz, 2015).

The study of Khan et. al. (2019) and Indrayani et. al. (2024) shows that employees perform better when they are satisfied in their jobs. In addition, the research of Ahmed & Idris (2020) states any kind of organization can achieve excellent performance through satisfied employees. Job satisfaction is the outcome of employees' judgments of the way a job fulfills all that is deemed vital through its employment. Job satisfaction is defined as an individual's attitude (emotional reaction) toward his or her work. Job satisfaction is also an essential concern for the company because it is a collection of individual perspectives of employees that influence their attitudes and behaviors when working (Hendri, 2019). Based on Ye et. al. (2019), employees who feel satisfied with their jobs tend to be enthusiastic and enjoy their work than those who are dissatisfied with it.

As stated by Munir Ahmad & Elhuni (2014), TQM has evolved into a comprehensive framework in many nations (such as national quality awards or globally renowned honors like the Deming Award, Malcolm Baldrige National Quality Award (MBNQA), and European Foundation for Quality Management (EFQM)) with the goal of assisting organizations in achieving exceptional performance, especially in terms of customer and business outcomes. Companies in both developing and developed economies are increasingly required to shift from traditional administrative management approaches toward more value-driven, proactive, and efficient models. A key factor in ensuring the success of this transformation is the implementation of effective quality management practices. Soft TQM stands out for its emphasis on human-centered elements such as leadership, employee involvement, communication, and continuous training which is factors that directly influence human resource development and organizational performance.

Open organization, executive commitment, participative team dynamics, organizational skill and culture, and empowerment are the sources of the soft TQM components (Psomas et. al, 2014). In quality management systems, soft TQM has more of an effect on organization performance than hard TQM (Lepistö et. al., 2023). Soft TQM aims to enhance not only systems and processes but also people and their contributions to the organization. The research of Vihari et. al. (2021) shows that the soft TQM elements positively affect the work performance of the workers. Besides, the study in the paper of Ahmed & Idris (2020) states that the soft TQM variables significantly positively influence the job satisfaction of employees. The soft TQM includes top management commitment, employee empowerment, teamwork, training, and employee involvement.

TQM has been widely examined across various sectors due to its positive influence on organizational outcomes. Ahmed & Idris (2020), found that soft TQM has positively and significantly impacts employee performance. Research by Indrayani, Nurhatisyah, Damsar, & Wibisono (2024), emphasizes the relationship between employee job satisfaction and performance, reinforcing the importance of human-centered quality practices. Furthermore, the study based on Khan et al. (2019), demonstrated that employee job satisfaction and affective commitment mediate the relationship between TQM and employee performance. In the Indonesian oil and gas context, the study of Wibowo & Adisty (2017) state that TQM variables has a

positive influence with competitive performance in oil and gas industry. Despite these findings, studies specifically examining soft TQM's influence on employee performance with job satisfaction as a mediating variable, which focus on exploring the human-centered mechanism, remain limited, particularly in Indonesia's oil and gas sector.

Study by Alkhaldi & Abdallah (2022), in the health care industy, found that patient satisfaction as well as quality performance are strongly positively impacted by soft TQM. Compared to soft TQM, hard TQM was found to have a less positive impact on quality performance. On the other hand, there was no discernible impact of strict TQM on patient satisfaction. In the case of Iraqi oil industry (Aletaiby, Rathnasinghe, & Kulatunga, 2021), the sector operates in a high-risk landscape due to the country's heavy reliance on oil exports and vulnerability to global economic fluctuations, making the adoption of quality management practices such as TQM crucial for improving operational stability and reducing risk. In that research, it reveals that top management commitment is crucial for TQM implementation. Unlike many other industries, the oil and gas sector faces unique challenges, particularly stringent safety regulations, complex operational hazards, and a diverse workforce spanning upstream to downstream functions. This diversity often leads to inconsistencies in training and engagement, highlighting the need for tailored, people-focused quality initiatives. Therefore, this study addresses these gaps by focusing on soft TQM practices in an Indonesian oil and gas company, which remain underexplored in this country. In addition, it examines how employee job satisfaction mediates the relationship between soft TQM and performance. By investigating a high-risk and under-researched industry, this study extends existing TQM theory and emphasizes the importance of human-centered practices in enhancing employee performance.

PT XYZ Company is an oil and gas company in Indonesia that implements TQM. Based on observations, the company has encountered several issues, including certain departments failing to meet work quantity targets during specific periods, resulting in delays. Apart from that, necessary job-related innovation is lacks implementation. These problems may lead to decreased productivity, lower work quality, which can cause errors and inefficiencies, and reduced employee job satisfaction. This company has ISO 9001:2015 certification which attests to its dedication to quality management. However, whether soft TQM positively and significantly affects employee job satisfaction and employee performance has never been measured in this company. Hence, the purpose of this research is to identify the effect of soft total quality management on employee job satisfaction and employee performance at PT XYZ Company, while also discussing the importance of adapting quality strategies to address challenges such as workforce diversity, operational complexity, and innovation implementation in the oil and gas industry.

Methodology

This research utilizes primary data collection. Primary data refers to data that is obtained firsthand directly from individuals, sources, or entities for a specific research or study (Hox & Boeije, 2005). Additionally, this research uses quantitative data collection using questionnaires which will be distributed to employees of PT XYZ Company in all sub holding. The questionnaire in this research contains a question that is related to each of the soft TQM variables whether it is influencing its dependent variables namely employee job satisfaction and employee performance using the Likert scale answer in the following:

1: Strongly disagree
2: Disagree
3: Neutral
4: Agree
5: Strongly Agree

The research model of this research is shown in Figure 1.

The hypotheses according to the research model are:

H1 = Soft TQM variables have a significant positive impact on employee job satisfaction,

H2 = Soft TQM variables have a significant positive impact on employee performance,

H3 = Employee job satisfaction variable has a significant positive impact on employee performance,

H4 = Soft TQM variables have a significant positive impact on employee performance through employee job satisfaction as a mediator.

The questions and hypotheses for the questionnaire are defined according to the previous research that was adapted to this research. The questions for the soft TQM variables (X) consist of 5 variables and each of them consists of 4 to 5 questions while the employee job satisfaction consists of 10 questions according to the research of Ahmed & Idris (2020) who examined the effect of soft TQM to employee job satisfaction at the Sudanese oil companies. Furthermore, the questions of

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employee performance consist of 5 questions based on the study of Chen & Wei (2020) who measured employee performance.

The sampling method to identify the sample size is using simple random sampling. In quantitative research using survey instruments, simple random sampling is a frequently used sampling technique. Using simple random sampling, every item in the population has an equal chance of being chosen. In this case, item selection is totally determined by probability (Noor et. al., 2022). The number of populations used to determine the sample is the employees who work at PT XYZ Company on all sub-holdings with approximately 6000 employees. Due to limited time, the data sampling in this research is gathered within two weeks. According to that, the data sampling of the employees at PT XYZ Company is 51 respondents. The sample size meets the minimum requirement for PLS-SEM analysis. According to the 10-times rule (Hair et al., 2021), the required sample should be at least 10 times the maximum number of structural paths directed at a single latent variable in the model. In this study, the latent variable Employee Performance receives three direct paths, indicating a minimum required sample of 30, thereby supporting the adequacy of the sample used. In addition, to assess the potential for common method bias (CMB), Harman's single-factor test was conducted using exploratory factor analysis that is shown in Table 1. The results showed that the first unrotated factor accounted for 48.49% of the total variance, which is below the commonly accepted threshold of 50% (Fuller et al., 2016). These results imply that the presence of common method bias is limited and does not significantly affect the findings.

Table 1. Harman's Single-factor Test

Extraction Sums of Squared Loadings		
Total	% of Variance	Cumulative %
17.941	48.490	48.490

This study uses the PLS-SEM method utilizing the SmartPLS 4 version. According to Wong (2013), a statistical method for examining intricate connections among latent variables and indicators is called partial least squares-structural equation modeling (PLS-SEM). It offers an alternative to typical SEM approaches that rely on covariance estimation. To estimate the parameters of the model, PLS-SEM employs the Partial Least Squares (PLS) algorithm, which increases its robustness when dealing with non-normal or small amounts of data. Magno et. al. (2024) state that, one possible justification for using PLS-SEM is model complexity. PLS-SEM is capable of handling complicated models and it provides flexibility in measuring specifications and data requirements (Hair & Alamer, 2022).

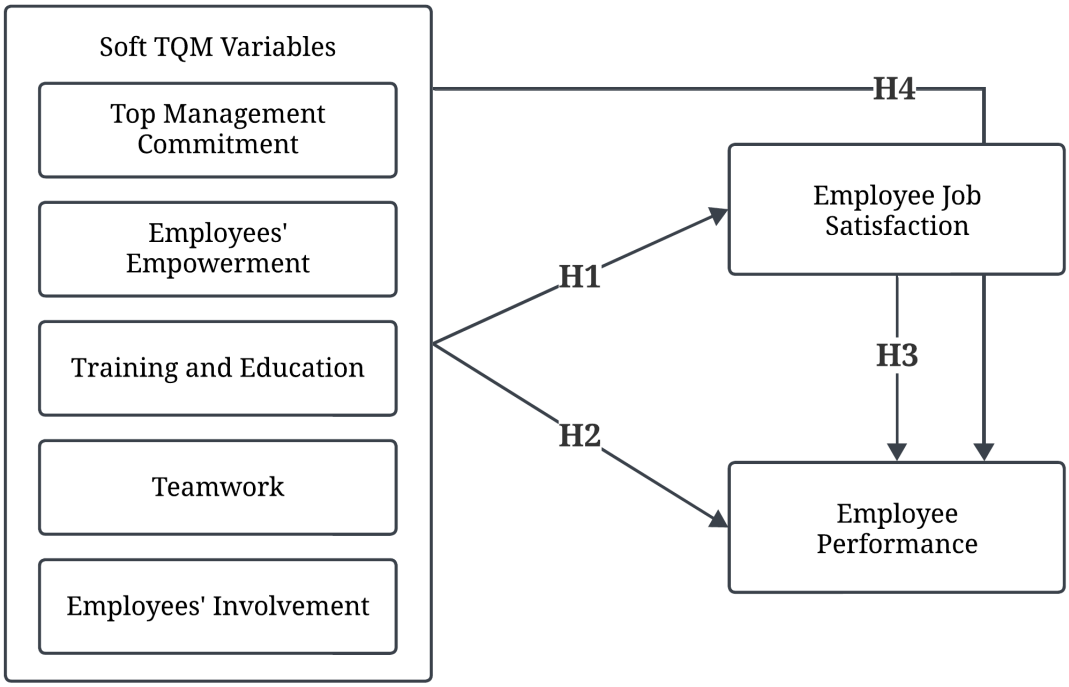

Figure 1. Research Model

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In this study, Soft TQM was conceptualized as a second-order reflective construct, consisting of five first-order dimensions: top management commitment, employee involvement, training and education, teamwork, and empowerment. To properly model this hierarchical structure, the two-stage approach is applied. As outlined by Surveyandini & Achadi (2021) and Rahadi (2023), PLS-SEM comprises two key components: the outer model, which evaluates the relationship between latent variables and their indicators, and the inner model, which assesses the relationships among latent variables. The questionnaire that has been created and distributed will undergo a validity test and reliability test that is interpreted as an outer model. In this first stage, the validity and reliability of the first-order constructs were tested. Then, their latent variable scores were used as indicators in the second-order construct during the second stage. This approach ensures accurate representation of the theoretical framework and supports the robustness of the analysis. The validity test consists of two methods, namely convergent validity and discriminant validity. Convergent validity is assessed using standardized loading factors and Average Variance Extracted (AVE), while discriminant validity was measured through three methods: the Heterotrait-Monotrait (HTMT) ratio, the Fornell-Larcker criterion, and cross-loading analysis. Items that did not meet the required validity thresholds were removed and retested. For reliability, Composite Reliability (CR) and Cronbach's Alpha were used, with unreliable indicators also being eliminated. Once the measurement model was confirmed to be valid and reliable, descriptive analysis was conducted to present the respondents' characteristics, including gender, age, education level, and length of employment. The inner model analysis included Goodness of Fit (GoF) using SRMR, Coefficient of Determination (R^2), and hypothesis testing for both direct and indirect effects then executed.

Result and Discussions

Outer Model

The outer model shows the specifics of the correlation between the variables and their indicators. The outer model analysis approach includes validity and reliability tests. In order to make sure that the scores or findings from an assessment are important and related to the concept being assessed, validity is an essential component. Moreover, reliability tests are performed to assess the precision and consistency of the model.

The validity test consists of two methods namely convergent and discriminant validity. The link between the outcomes of various factors while assessing the same construct is known as convergent validity. This research uses a standardized loading factor and Average Variance Extracted (AVE) to measure the convergent validity.

Using the standardized loading factor method, the data is defined as valid when the loading factor values > 0.6. According to the result, the loading factor values each of the indicators on the Top Management Commitment (TMC), Employee Empowerment (EE), Teamwork (TW), Training (TR), Employee Involvement (EI), Employee Job Satisfaction (EJS), and Employee Performance (EP) variables are > 0.6. Hence, the indicators are valid to measure the variables. The result of the standardized loading factor is described in Figure 2.

The data is valid when AVE > 0.5. Both the AVE value of independent variables (TMC, EE, TW, TR, and EI) and dependent variables (EJS and EP) are bigger than 0.5 which indicates the indicators on its latent variable are valid. The result of the AVE is shown in Table 2.

Table 2. Average Variance Extracted (AVE)

	Average variance extracted (AVE)
EE	0.690
EI	0.679
EJS	0.636
EP	0.748
TMC	0.757
TR	0.734
TW	0.764

The discriminant validity of the measurement demonstrates that testing one component does not entail measuring other constructs. The methods to define the discriminant validity include Heterotrait-Monotrait (HTMT) Ratio, Fornell-Lacker, and Cross Loading. HTMT ratio that > 0.9 indicates insufficient discriminant validity. This research has three main variables namely soft TQM, EJS, and EP. The HTMT ratio of EP and EJS shows a value of 0.803 which is less than 0.9 which means the data is valid and can be distinguished. HTMT ratio of 0.547 which is < 0.9 indicates that the indicators of variable between EJS and Soft TQM are valid. Furthermore, a valid indicator between EP and Soft TQM variable is also shown on the HTMT ratio of 0.737 below 0.9. The elevated HTMT values between Soft TQM and its first-order constructs (EE, EI, TMC, TR, and TW) are

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expected and acceptable in the context of a reflective-reflective higher-order construct modeled using the Two-Stage Approach. These constructs are conceptually part of the same overarching latent variable and are therefore expected to be highly correlated. The result of the HTMT Ratio is shown in Table 3.

The Fornell-Lacker method determines whether a construct's square root of the AVE is higher than its correlation with all other constructs to measure the validity.

The square root AVE of the EJS variable is 0.798 which is higher than 0.749 and 0.526. The square root AVE of EP is 0.865 which is greater than 0.749 and 0.697. Moreover, the square root AVE of Soft TQM is 0.766 which is bigger than 0.697 and 0.526. According to that, these variables are valid and can be distinguished. The result of the Fornell-Lacker criterion is shown in Table 4.

Cross-loading value analysis ensures that each indicator's loading value on its construct exceeds the indicator's cross-loading value with other constructs. The result of the cross-loading value of each indicator is interpreted by the values that are bold in this research and it is bigger than the cross-loading value with other variables. This means each of the indicators can be distinguished from the other indicators and it is valid. The result of the cross-loading is shown in Table 5.

The reliability test is conducted using two approaches namely composite reliability and Cronbach's Alpha. How accurately the underlying constructs of a variable are expressed in the structural modeling equations is determined by composite reliability. The internal consistency of a scale is calculated using Cronbach's alpha by calculating the correlation between every item.

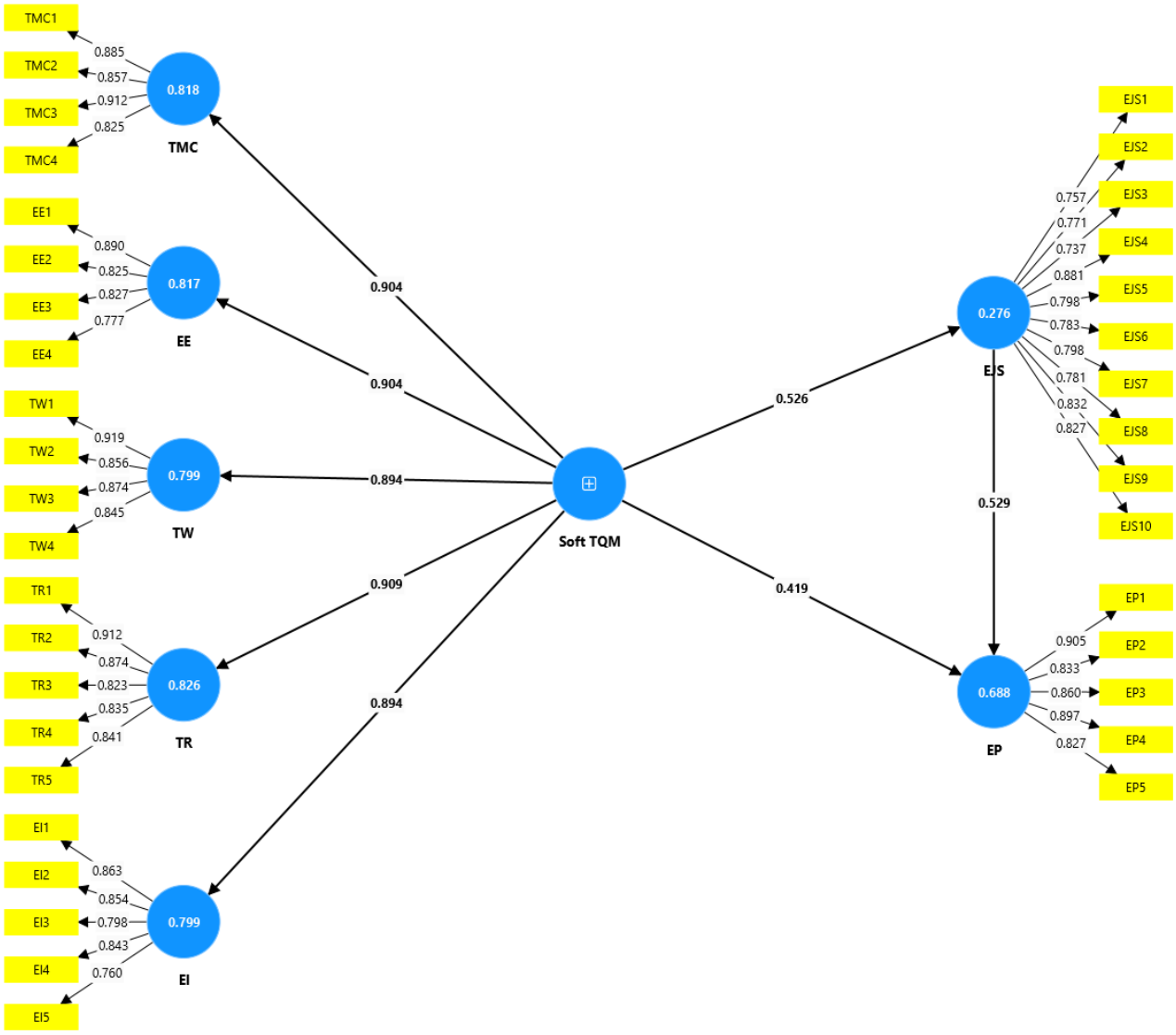

Figure 2. Standardized Loading Factor

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Table 3. Heterotrait-Monotrait (HTMT) Ratio.

	EE	EI	EJS	EP	Soft TQM	TMC	TR	TW
EE								
EI	0.886							
EJS	0.569	0.470						
EP	0.747	0.613	0.803					
Soft TQM	0.996	0.972	0.547	0.737				
TMC	0.888	0.859	0.533	0.694	0.972			
TR	0.882	0.842	0.573	0.729	0.967	0.846		
TW	0.883	0.820	0.423	0.687	0.959	0.875	0.838	

Table 4. Fornell-Lacker Matrix

	EE	EI	EJS	EP	Soft TQM	TMC	TR	TW
EE	0.831							
EI	0.770	0.824						
EJS	0.510	0.429	**0.798**					
EP	0.662	0.555	**0.749**	**0.865**				
Soft TQM	0.904	0.894	**0.526**	**0.697**	**0.766**			
TMC	0.776	0.766	0.493	0.629	0.904	0.870		
TR	0.782	0.755	0.533	0.665	0.909	0.761	0.857	
TW	0.772	0.731	0.392	0.627	0.894	0.783	0.759	0.874

Table 5. Cross Loading

	EE	EI	EJS	EP	TMC	TR	TW
EE1	**0.883**	0.774	0.407	0.597	0.669	0.759	0.704
EE2	**0.836**	0.566	0.481	0.574	0.706	0.633	0.597
EE3	**0.825**	0.623	0.421	0.514	0.553	0.598	0.633
EE4	**0.774**	0.574	0.387	0.511	0.633	0.583	0.620
EI1	0.588	**0.870**	0.405	0.535	0.665	0.674	0.685
EI2	0.586	**0.849**	0.290	0.449	0.690	0.549	0.642
EI3	0.687	**0.795**	0.397	0.410	0.636	0.576	0.616
EI4	0.642	**0.841**	0.344	0.432	0.614	0.633	0.501
EI5	0.656	**0.761**	0.318	0.455	0.528	0.654	0.551
EJS1	0.479	0.448	**0.755**	0.495	0.436	0.403	0.342
EJS10	0.336	0.231	**0.829**	0.620	0.264	0.406	0.243
EJS2	0.373	0.462	**0.767**	0.506	0.406	0.408	0.339
EJS3	0.368	0.312	**0.740**	0.545	0.273	0.422	0.209
EJS4	0.529	0.463	**0.880**	0.673	0.507	0.521	0.409
EJS5	0.476	0.303	**0.799**	0.581	0.367	0.425	0.302
EJS6	0.493	0.329	**0.786**	0.652	0.441	0.496	0.310
EJS7	0.253	0.235	**0.801**	0.589	0.289	0.389	0.161
EJS8	0.349	0.261	**0.781**	0.609	0.418	0.441	0.382
EJS9	0.394	0.379	**0.830**	0.666	0.485	0.426	0.419
EP1	0.631	0.606	0.711	**0.904**	0.663	0.624	0.643
EP2	0.469	0.393	0.639	**0.832**	0.494	0.513	0.396
EP3	0.523	0.465	0.678	**0.859**	0.495	0.598	0.497
EP4	0.653	0.451	0.642	**0.898**	0.582	0.569	0.626

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A composite reliability value of more than 0.7 denotes excellent reliability. It is seen that the value of the composite reliability on each variable has values that > 0.7 which means the data are reliable. However, if the reliability estimate is 0.95 or greater, it suggests that the items may be redundant because they measure almost the same feature of the construct (Hair & Alamer, 2022). Due to the CR are below 0.95, the reliability is still acceptable. The result of composite reliability is shown in Table 6.

Table 6. Composite Reliability

	Composite reliability (rho_a)	Composite reliability (rho_c)
EE	0.854	0.899
EI	0.887	0.914
EJS	0.939	0.946
EP	0.921	0.937
TMC	0.893	0.926
TR	0.929	0.932
TW	0.898	0.928

Cronbach's alpha of more than 0.7 indicates that the results are reliable. The result of Cronbach's Alpha of all independent and dependent variables shows values that are higher than 0.7. According to that, the variables are reliable. Cronbach's Alpha result is shown in Table 7.

Table 7. Cronbach's Alpha

	Cronbach's alpha
EE	0.849
EI	0.881
EJS	0.936
EP	0.916
TMC	0.893
TR	0.910
TW	0.896

Descriptive Analysis

The descriptive analysis in this study aims to see the characteristics of the respondents. The number of respondents in this research is 51 respondents. According to the result, the respondent is dominated by women as much as 61% which is 31 employees. Most of the respondents are aged 40-49 years old, which is 43% or 22 employees followed by 33% or 17 employees aged ≥ 50 years old. Moreover, the education of the employees mostly has a bachelor's degree which is 39% of the respondents or specifically 20 respondents. Furthermore, 41% of the respondents, or 21 employees have a duration of employment more than or equal to 20 years. The detailed respondent characteristics are described in Table 8.

Table 8. Respondent Characteristics

No	Respondent Characteristic	Frequency	Percentage
1	Gender:		
	Man	20	39%
	Woman	31	61%
	TOTAL	**51**	**100%**
2	Age:		
	20-29 Years Old	2	4%
	30-39 Years Old	10	20%
	40-49 Years Old	22	43%
	≥50 Years Old	17	33%
	TOTAL	**51**	**100%**
3	Education:		
	Diploma	1	2%
	Bachelor	20	39%
	Master	19	37%
	Doctorate	11	22%
	TOTAL	**51**	**100%**
4	Duration of Employment:		
	1-5 Years	2	4%
	6-10 Years	3	6%
	11-15 Years	8	16%
	16-20 Years	17	33%
	≥20 Years	21	41%
	TOTAL	**51**	**100%**

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Inner Model

The inner model depicts the specifics of the latent variable relationship, particularly the connection between the independent and dependent variables. The method to measure the inner model includes Goodness of Fit (GoF), Coefficient of Determination (R2), and hypothesis testing direct effect and indirect effect.

The GoF index is a metric that assesses the performance of both the structural and measurement models. The model is considered fit if the SRMR value < 0.1. The result of SRMR value in this study is 0.079 which is below 0.1. Meaning the model in this study is fit. The result of GoF is described in Table 9.

Table 9. Goodness of Fit (GoF)

	Saturated model	Estimated model
SRMR	0.079	0.079
d_ULS	4.373	4.373
d_G	6.108	6.108
Chi-square	1.065.755	1.065.755
NFI	0.560	0.560

The Coefficient of Determination (R2) evaluates the extent to which the variance of a dependent variable can be predicted or explained by the independent variable. The R-square value of EJS is 0.276 which means Employee Job Satisfaction is explained as much as 27.6% by Soft Total Quality Management while the rest is explained by the other aspect. Furthermore, the R-square result of EP is as much as 0.688. This indicates that employee performance is explained by 68.8% of Soft Total Quality Management and the rest is explained by the other factors. The details of the R-square result are shown in Table 10.

Table 10. R-square

	R-square	R-square adjusted
EJS	0.276	0.262
EP	0.688	0.675

The direct effect method determines the direct relationship between independent towards dependent variables. While indirect effects represent the degree to which the independent variable affects the dependent variable through a mediator. The result of the direct and indirect effects is shown in Table 11.

A significant effect is indicated by a p-value < 0.05. The result of Soft TQM towards employee job satisfaction has a coefficient value of 0.526 and a p-value as much as 0.002 < 0.05. This means there is a significant positive relationship between Soft TQM toward employee job satisfaction and hypothesis 1 (H1) is accepted. The coefficient value of Soft TQM towards employee performance is 0.419. In addition, the p-value is 0.022 < 0.05. According to that, Soft TQM and employee performance have a positive significant correlation which resulting hypothesis 2 (H2) being accepted. Furthermore, the relationship between employee job satisfaction and employee performance shows a positive coefficient value of 0.529 and a p-value as much as 0.003 < 0.05. Thereby, Employee job satisfaction is positively significantly affecting employee performance which indicates hypothesis 3 (H3) is accepted. The coefficient value of Soft TQM towards employee performance by employee job satisfaction as a mediator is showing a value of 0.278. Additionally, the p-value is as much as 0.021 < 0.05 indicating a significant correlation. Hence, Soft TQM is positively significantly affecting employee performance through employee job satisfaction which determines that hypothesis 4 (H4) is accepted.

The company could enhance the workers' job satisfaction and performance by executing several actions. Firstly, involve the employees in decision-making and policy-making in the business process. It enables them to identify non-value-added work by reducing or eliminating rework and implementing a more efficient version of the business process; therefore, their working targets are fulfilled. Secondly, develop a clear implementation plan for the innovation to improve employee coordination and accountability. Other than that, supporting and facilitating cross-department teams to collaborate on problem-solving and operational improvement is also crucial for the oil and gas company, which has a complicated process and a high-risk environment. Workforce diversity is one of the challenges of this sector, as employees across upstream, midstream, and downstream operations often differ in educational backgrounds, skill levels, and cultural perspectives. Without a tailored approach, uniform training and quality initiatives may fail to meet the unique needs of each group, leading to inconsistent outcomes. Thereby, a proper and targeted training program is necessary for them. Although training incurs expenses for the company, its benefits include fewer production errors, higher output, better quality, lower employee turnover, reduced personnel costs,

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Table 11. Direct and Indirect Effects

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
Soft TQM -> EJS	0.526	0.506	0.168	3.132	0.002
Soft TQM -> EP	0.419	0.389	0.180	2.333	0.022
EJS -> EP	0.529	0.553	0.173	3.061	0.003
Soft TQM -> EJS -> EP	0.278	0.273	0.119	2.337	0.021

improved health and safety, better communication, greater employee flexibility, improved employee relations, and fewer accidents (Albuhisi & Abdallah, 2018).

This study is limited by its small sample size from a single oil and gas company, which may affect the generalizability of the findings. Future research could involve larger, more diverse samples across multiple organizations and industries. It is also recommended to examine other factors that impact, and to compare soft TQM with hard TQM to identify which practices more effectively improve employee performance and satisfaction.

Conclusion

In conclusion, the result of PLS-SEM analysis to examine the relationship of soft total quality management as the independent variable towards employee job satisfaction and employee performance as the dependent variables are described as follows:

1: The relationship between soft total quality management and employee job satisfaction is resulting a positive coefficient value of 0.526 and a p-value of 0.002 < 0.05. This implies there is a positive significant relationship between them and hypothesis 1 (H1) is accepted.
2: Soft total quality management positively significantly influences employee performance as shown by the result of a coefficient value as much as 0.419 indicating a positive value and the p-value 0.022 < 0.05. Accordingly, hypothesis 2 (H2) is accepted.
3: Employee job satisfaction shows a significant positive relationship with employee performance. It is supported by the positive coefficient value of 0.529 and p-value 0.003 < 0.05. Thereby, hypothesis 3 (H3) is accepted.
4: Soft total quality management positively and significantly affects employee performance through employee job satisfaction as it is seen that the coefficient value of 0.278 indicates a positive relationship and the significant effect that determined by p-value 0.021 < 0.05. Hence, hypothesis 4 (H4) is accepted.
5: To enhance employee job satisfaction and performance, PT XYZ should adopt a comprehensive soft TQM strategy that includes involving employees in decision-making, developing clear implementation plans for innovations, and fostering cross-functional collaboration.

Daftar Pustaka

Abbas, J. (2020). Impact of Total Quality Management on Corporate Sustainability through The Mediating Effect of Knowledge Management. *Journal of Cleaner Production, 244*.

Abukhadera, K. M., & Onbasioglu, D. C. (2021). he effects of total quality management practices on employee performance and the effect of training as a moderating variable. *Uncertain Supply Chain Management*.

Ahmed, A. O., & Idris, A. A. (2020). Examining the relationship between soft total quality management (TQM) aspects and employees' job satisfaction in "ISO 9001" Sudanese oil companies. *The TQM Journal*, 1754-2731. doi:https://doi.org/10.1108/TQM-05-2019-0147

Akgunduz, Y. (2015). The influence of self-esteem and role stress on job performance in hotel businesses. *International Journal of Contemporary Hospitality Management, 27*(6), 1082-1099. doi:https://doi.org/10.1108/IJCHM-09-2013-0421

Albuhisi, A. M., & Abdallah, A. B. (2018). "The impact of soft TQM on financial performance: the mediating roles of non-financial balanced scorecard perspectives. *International Journal of Quality & Reliability Management*, 1360–1379. doi:10.1108/ijqrm-03-2017-0036

Aletaiby, A. A., Rathnasinghe, A. P., & Kulatunga, P. (2021). Influence of top management commitment towards the effective implementation of TQM in Iraqi oil companies. *Journal of Petroleum Exploration and Production*

Technology, 11, 2039–2053. doi:https://doi.org/10.1007/s13202-021-01131-3

Alkhaldi, R. Z., & Abdallah, A. B. (2022). The influence of soft and hard TQM on quality performance and patient satisfaction in health care: investigating direct and indirect effects. *Journal of Health Organization and Management, 36*, 368-387. doi:https://doi.org/10.1108/JHOM-10-2020-0416

Chen, X., & Wei, S. (2020). The impact of social media use for communication and social exchange relationship on employee performance. *Journal of Knowledge Management, 24*(6), 1289-1314. doi:https://doi.org/10.1108/JKM-04-2019-0167

Fuller, C., Simmering, M., Atinc, G., Atinc, Y., & Babin, B. (2016). Common methods variance detection in business research. *Journal of Business Research*, 3192-3198. doi:https://doi.org/10.1016/j.jbusres.2015.12.008

Hair, J., & Alamer, A. (2022). Partial Least Squares Structural Equation Modeling (PLS-SEM) in second language and education research: Guidelines using an applied example. *Research Methods in Applied Linguistics, 1*(3). doi:https://doi.org/10.1016/j.rmal.2022.100027

Hair, J., Hult, G., Ringle, C., Sarstedt, M., Danks, N., & Ray, S. (2021). *Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R.* Springer Cham. doi:https://doi.org/10.1007/978-3-030-80519-7

Hendri, M. I. (2019). The mediation effect of job satisfaction and organizational commitment on the organizational learning effect of the employee performance. *International Journal of Productivity and Performance Management, 68*(7), 1208-1234. doi:https://doi.org/10.1108/IJPPM-05-2018-0174

Hox, J. J., & Boeije, H. R. (2005). Data Collection, Primary vs. Secondary. *Encyclopedia of Social Measurement*, 593-599.

Indrayani, I., Nurhatisyah, N., Damsar, D., & Wibisono, C. (2024). How does millennial employee job satisfaction affect performance? *Higher Education, Skills and Work-Based Learning, 14*, 22-40. doi:https://doi.org/10.1108/HESWBL-01-2023-0004

Khan, M. N., Malik, S. A., & Janjua, S. Y. (2019). Total Quality Management practice and work-related outcomes. *International Journal of Quality & Reliability Management, 36*(6), 864-874. doi:https://doi.org/10.1108/IJQRM-04-2018-0097

Kwong, K., & Wong, K. (2013). Partial least square structural equation modeling (PLS-SEM) techniques using SmartPLS. *Marketing Bulletin, 24*(1), 1-32. Retrieved from https://www.researchgate.net/publication/268449353_Partial_least_square_structural_equation_modeling_PLS-SEM_techniques_using_SmartPLS

Lepistö, K., Saunila, M., & Ukko, J. (2023). The effects of soft total quality management on the sustainable development of SMEs. *Sustainable Development, 31*(4), 2797-2813. doi:https://doi.org/10.1002/sd.2548

Magno, F., Cassia, F., & Ringle, C. M. (2024). A brief review of partial least squares structural equation modeling (PLS-SEM) use in quality management studies. *The TQM Journal, 36*(5), 1242-2731. doi:https://doi.org/10.1108/TQM-06-2022-0197

Munir Ahmad, M., & Elhuni, R. (2014). Critical quality factors for successful TQM implementation in Libyan oil and gas sector. *Benchmarking: An International Journal, 21*, 713-733. doi:https://doi.org/10.1108/BIJ-06-2012-0045

Noor, S., Tajik, O., & Golzar, J. (2022). Simple Random Sampling. *International Journal of Education and Language Studies, 1*(2), 78-82. doi:http://dx.doi.org/10.22034/ijels.2022.162982

Psomas, E., Vouzas, F., & Kafetzopoulos, D. (2014). Quality management benefits through the “soft” and “hard” aspect of TQM in food companies. *The TQM Journal, 26*(5), 431-444. doi:10.1108/TQM-02-2013-0017

Rahadi, D. R. (2023). *PENGANTAR PARTIAL LEAST SQUARES STRUCTURAL EQUATION MODEL(PLS-SEM).* Lentera Ilmu Madani. Retrieved from https://www.researchgate.net/publication/372827232_PENGANTAR_PARTIAL_LEAST_SQUARES_STRUCTURAL_EQUATION_MODELPLS-SEM_2023?enrichId=rgreq-3030f593e8432912d8089caf81b350f3-XXX&enrichSource=Y292ZXJQYWdlOzM3MjgyNzIzMjtBUzoxMTQzMTI4MTE3ODUzMjEwM0AxNjkwOTQzODMyN

Ralahallo, F. N., Titioka, B. M., & Ririhatuela, E. M. (2023). The Influence of The Dimensions of Total Quality Management Towards Employee Performance in RSUD DR. H. Ishak Umarella. *Pattimura Proceeding: Conference of Science and Technology*.

Sekaran, U. (2010). *Research Methods for Business.* Chichester: John Wiley & Sons.

Srimulyani, V. A., Rustiyaningsih, S., Farida, F. A., & Hermanto, Y. B. (2023). Mediation of “AKHLAK”

corporate culture and affective commitment on the effect of inclusive leadership on employee performance. *Sustainable Futures, 6*. doi:https://doi.org/10.1016/j.sftr.2023.100138

Surveyandini, M., & Achadi, A. (2021). Pengaruh Penerapan Total Quality Management Terhadap Kinerja Karyawan pada Lembaga Kursus dan Pelatihan American English Course Purwokerto. *Sebatik, 25*(1), 1410-3737. doi:10.46984/sebatik.v25i1.1214

Vihari, N. S., Yadav, M., & Panda, T. K. (2021). Impact of soft TQM practices on employee work role performance: role of innovative work behaviour and initiative climate. *Impact of soft TQM practices*, 1754-2731. doi:https://doi.org/10.1108/TQM-03-2021-0092

Wibowo, S. S., & Adisty, F. Y. (n.d.). Analysis of Total Quality Management on Competitive Performance of Oil and Gas Industry. *Journal of Applied Accounting and Taxation, 2*.

Ye, Z., Liu, H., & Gu, J. (2019). Relationships between conflicts and employee perceived job performance. *International Journal od Conflict Management, 30*(5), 706-728. doi:http://dx.doi.org/10.1108/IJCMA-01-2019-0010