Research Paper

Application of Total Quality Management to the Operational Performance of the PT Arohera Company

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Abstract

This research examines how Total Quality Management (TQM) dimensions—management support, customer focus, teamwork, and training education—affect the operational performance of PT Arohera, a recognized player in the EPCM industry. Despite its strong reputation, the company has not met its 95% operational efficiency target due to challenges such as inadequate management support and ineffective teamwork. This study aims to demonstrate how enhancing these TQM dimensions can improve productivity, quality, and customer satisfaction, thereby offering practical insights for optimizing operational performance. Findings reveal that management support is crucial for enhancing operational performance, with a significant sample value of 0.449, while customer focus shows a negative sample value of -0.067, indicating inefficiencies in addressing customer needs. Teamwork positively impacts outcomes, with a sample value of 0.486, highlighting the importance of employee collaboration; however, training education appears less effective, as indicated by a sample value of 0.095, suggesting deficiencies in current training programs. This study employs a quantitative approach, with data collected through a structured questionnaire distributed via Google Forms to all respondents in PT Arohera. The collected data were tabulated and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) to examine the impact of TQM practices on operational performance. Limitations include the study's focus on PT Arohera, which affects generalizability, and the potential oversight of other relevant factors influencing performance by concentrating solely on four TQM dimensions. This research contributes to the field by focusing on the direct relationship between TQM dimensions and operational performance within a single organization and providing targeted insights to address PT Arohera's specific challenges and opportunities.

Keywords: *Total Quality Management, Management Support, Customer Focus, Teamwork, Training, And Operational Performance*

INTRODUCTION

The EPCM (Engineering, Procurement, and Construction Management) industry plays a pivotal role in overseeing projects from inception through to completion, encompassing a wide range of tasks, including planning, procurement, and construction (Pan & Zhang, 2020; Yeo & Ning, 2002). The importance of EPCM services in enhancing operational performance cannot be overstated, as these services ensure that projects are executed efficiently, on schedule, and in compliance with set standards and regulations (Yeo & Ning, 2002). By ensuring that projects are completed with the highest level of efficiency and quality, EPCM companies directly influence project outcomes, contributing significantly to the overall performance of the company (Musa & Bello, 2023). The ability to manage large-scale projects effectively is a critical success factor because it determines not only the operational success of an organization but also its competitive edge in the market (Hirschhorn, 2001; Patanakul, 2013; Shenhar et al., 2001).

In the highly competitive EPCM sector, companies must navigate a complex set of challenges. They must deliver high-quality products and services at competitive prices while maintaining excellent service standards. As highlighted by Rizaldi & Satyanegara (2022), offering high-quality products leads to increased productivity by reducing production costs and enabling better price

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management. Ensuring continuous improvement in effectiveness and efficiency is a strategic approach that enables an organization to sustain long-term success by maintaining optimal operations and adapting to evolving challenges (Aulia et al., 2024). Achieving this requires the ongoing advancement of knowledge, scientific innovation, and technological developments that enable companies to meet both their immediate operational needs and their long-term strategic goals. By staying ahead of the curve in terms of industry trends and technological advancements, EPCM companies can continue to drive improvements that enhance their operational performance and client satisfaction (Lara & Wassick, 2023).

In the current globalized and rapidly modernizing business landscape, organizations must also focus on using high-quality resources as system controllers to optimize performance. One effective framework for enhancing operational performance in this context is the implementation of Total Quality Management (TQM) (Shahid et al., 2022; Zaidi & Ahmad, 2020). TQM has been widely adopted across industries as a comprehensive approach to improving competitiveness, quality, productivity, and profitability. Studies have demonstrated the significant benefits of TQM, with companies that embrace its principles achieving better market positioning, superior service quality, and increased profitability (Christanti & Witjaksono, 2019; Kurukwar & Katwale, 2021; Meyrandi et al., 2023; Zehir & Zehir, 2023). TQM focuses on creating seamless operational processes that align with customer expectations and needs. By positioning human resources based on their expertise, TQM enables organizations to make more informed and effective decisions, which ultimately leads to improved operational performance across several metrics, such as market share, service quality, marketing effectiveness, and customer satisfaction (Pabendon et al., 2023).

TQM consists of six key elements: management support, customer focus, continuous improvement, teamwork, employee empowerment, and training. Each of these elements plays a crucial role in driving organizational success. For example, management support ensures that quality initiatives are prioritized at the highest levels, while customer focus ensures that products and services meet the evolving market needs (Musa & Bello, 2023). Continuous improvement is central to TQM because it drives organizations to constantly evaluate and enhance their processes, while teamwork fosters collaboration and innovation. Employee empowerment allows for greater ownership and involvement in decision-making, and training ensures that employees have the skills and knowledge required to maintain high standards of quality.

Numerous studies have explored the relationship between TQM and organizational performance, with the majority showing that TQM practices lead to significant improvements in performance. Studies by Modgil and Sharma (2016), Al-Damen (2017), and Panuwatwanich and Nguyen (2017) support the notion that TQM positively influences various aspects of organizational performance. However, some studies have suggested that the effects of TQM may not be as pronounced. For instance, Mahmud et al. (2019) concluded that TQM may not have a significant impact on organizational performance, whereas studies by Winarty and Fachurrozi (2017) suggested that the direct relationship between TQM and performance improvement is limited. Further, Singkoh et al. (2018) and Tatontos et al. (2019) found that while teamwork and training are important elements of TQM, their impact on performance can be negligible if not integrated effectively. Gaspar et al. (2019) also observed that an overemphasis on quality alone does not necessarily lead to significant improvements in service quality or overall company performance. These contradictory findings highlight the complexity of successfully implementing TQM and the need for a balanced approach that integrates all elements effectively.

PT Arohera, a leading EPCM service provider, exemplifies the critical role that management support, customer focus, teamwork, and continuous improvement play in shaping the success of organizations in this sector (Yanty et al., 2024), With experience in managing projects from

planning through to realization, PT Arohera has established itself as a world-class EPCM provider, earning recognition from both clients and stakeholders. The company has demonstrated a strong commitment to operational excellence, consistently striving to improve efficiency and quality across all stages of its projects.

The operational performance of PT Arohera from the third quarter of 2022 to the first quarter of 2024 reveals a compelling phenomenon, highlighting both the achievements and challenges the company has encountered in maintaining its operational efficiency. On the one hand, PT Arohera has successfully delivered several high-profile projects on time and within budget, earning praise for its ability to manage complex, large-scale endeavors. On the other hand, the company has faced challenges such as optimizing resource allocation, improving communication between teams, and addressing customer concerns more proactively. These challenges underline the need for continuous improvement, not only in technical capabilities but also in internal processes and customer relationship management. PT Arohera's experience demonstrates that while the adoption of quality management practices like TQM can drive operational success, the consistent implementation and alignment of all organizational elements are essential for sustained performance improvements.

The operational performance of PT Arohera from the third quarter of 2022 to the first quarter of 2024 presents an insightful phenomenon, highlighting its achievements and challenges in maintaining operational efficiency as follows:

Table 1. PT. Arohera Operational Performance Data

Year	Quarter	Target	Realization	Information
2022	III	95%	79.18%	Not achieved
	IV	95%	82.86%	Not achieved
2023	I	95%	80.50%	Not achieved
	II	95%	92.16%	Not achieved
	III	95%	82.11%	Not achieved
	IV	95%	83.60%	Not achieved
2024	I	95%	87.81%	Not achieved

Source: PT Arohera (2024) Operational performance report, Internal document.

The data presented in the table indicates that PT Arohera's operational performance experiences annual fluctuations. Notably, the company has consistently failed to meet its target of at least 95% efficiency. This shortfall can be attributed to several factors, including inadequate management support, insufficient understanding of customer needs, poor collaboration among team members, and a lack of effective employee training programs.

This research distinguished itself by focusing specifically on PT Arohera and using a different research subject compared to previous studies. It focuses solely on TQM dimensions—management support, customer focus, teamwork, and training education out of the ten dimensions that can impact operational performance. Given these observations and the existing research gaps, further investigation into the influence of Total Quality Management on the operational performance of PT Arohera is essential.

Despite extensive research on Total Quality Management (TQM) and its impact on operational performance, significant gaps remain in the literature, particularly concerning its application in the EPCM industry. While previous studies (e.g., Modgil & Sharma, 2016; Al-Damen, 2017) have highlighted the positive effects of TQM, others (e.g., Mahmud et al., 2019; Gaspar et al., 2019) have suggested that the relationship is not always straightforward. These inconsistencies raise questions about the context-dependent nature of TQM practices and their effectiveness across different industries. Moreover, existing studies often analyze TQM as a broad framework without isolating its specific dimensions in industry-specific settings. This study addresses these gaps by focusing exclusively on management support, customer focus, teamwork, and training and education—four key dimensions of TQM that are particularly relevant to PT Arohera's operational challenges. This research provides a more nuanced understanding of how these elements influence performance in the EPCM sector, offering insights that can inform more targeted quality management strategies for companies facing similar operational constraints.

LITERATURE REVIEW

Human capital is often easier to discuss than to implement within organizations. The fundamental idea behind Human Capital is that individuals are not merely resources; they represent capital that generates returns. Every investment made to enhance the quality and quantity of this capital is viewed as an investment activity (Becker, 1993). This concept can be analyzed through the Resource-Based View (RBV), which posits that human capital is a critical internal resource that can provide organizations with a sustained competitive advantage.

Effect of management support on operational performance

Management support plays a crucial role in identifying organizational needs and ensuring their effective fulfillment, with research indicating that top management support significantly impacts operational performance (Hadli, 2017). In the context of Total Quality Management (TQM), management support is integral to fostering a culture of continuous improvement and ensuring alignment between strategic goals and operational execution**.** For organizations to succeed, top management must cultivate a unified purpose and direction, which requires personal involvement in establishing and overseeing quality policies and ensuring that these policies are communicated to all employees (Sirma et al., 2019). Moreover, top management is responsible for creating policies that promote innovation and sustainability, as noted by Truong et al. (2015). In manufacturing, decisions regarding investments in advanced machinery, information technology, automation, preventive maintenance, and optimal process design are critical to enhancing operational efficiency, improving product quality, and sustaining long-term competitiveness. These actions demonstrate how top management's strategic decisions drive continuous improvement, innovation, and organizational success. These factors highlight the importance of management support in improving operational performance, which is consistent with the study's hypothesis that management support influences operational performance. Therefore, this study posits the following hypothesis:

H1: Management support influences operational performance.

The Effect of Customer Focus on Operational Performance

A customer-focused approach is essential for aligning an organization with the evolving customer needs, ensuring optimal service delivery, and fostering long-term customer satisfaction. By prioritizing customers, organizations can enhance their performance through consistent maintenance and implementation of quality standards that directly address customer expectations. This approach not only drives customer loyalty and improves operational efficiency and

competitiveness in the market. Research has consistently shown that adopting a customer-centric Total Quality Management (TQM) approach leads to significant positive outcomes, including enhanced organizational performance, as it emphasizes the importance of meeting customer needs and continuously improving processes (Al-Damen, 2017; Putri & Kusumawardhani, 2017; Chin et al., 2018; Mohammed et al., 2019). TQM highlights that a focus on customer needs drives innovation in processes and product development, which in turn enhances organizational performance. A commitment to this philosophy enables organizations to better understand customer preferences, deliver higher-quality products and services, and ultimately achieve greater success in a competitive landscape. This suggests a direct relationship between customer focus and improved operational performance, which supports the hypothesis that customer focus influences operational performance. Thus, we propose the following:

H2: Customer focus influences operational performance.

The Effect of Teamwork on Operational Performance

Teamwork plays a critical role in improving organizational performance, especially in terms of the successful implementation of Total Quality Management (TQM) practices. The synergy created through effective communication and collaboration among team members, as well as between employees and management, fosters strong relationships that align with the organization's goals and objectives. This cooperative environment not only encourages shared responsibility but also drives collective problem-solving, leading to enhanced innovation and efficiency. Research consistently supports this idea, with studies by Qasrawi et al. (2017), Ralahallo and Pattipeiluhu (2017), and Sumardi and Fernandes (2020) all highlighting the positive correlation between teamwork and organizational performance. Studies have shown that high levels of teamwork directly contribute to better decision-making and improved operational efficiency, which are key tenets of TQM principles. These findings underscore the importance of fostering a culture of collaboration wherein individuals work together toward common goals, thereby improving overall organizational effectiveness and ensuring the successful implementation of TQM initiatives. Thus, effective teamwork not only enhances performance through improved collaboration but is a cornerstone of successful TQM implementation. Hence, we state:

H3: Teamwork influences operational performance.

The Influence of Training Education on Operational Performance

Organizations that prioritize workforce education and training recognize the critical role of enhancing employee soft skills, which ultimately contributes to the production of high-quality goods and services. By investing in training and development programs, organizations can improve not only their technical expertise but also their communication, problem-solving, and leadership abilities, fostering a more capable and motivated workforce. Ratnasari and Sunuharyo (2018) emphasized that training and academic development are crucial for boosting staff performance, which directly translates into improved organizational outcomes. This perspective is further supported by studies by Nasrun (2018), Yumaizar (2019), and Sweis et al. (2016), which confirm that education and training have a positive and substantial impact on organizational performance.

Training programmes aligned with the principles of TQM also emphasize continuous learning and process improvement, which are essential for sustaining high operational standards. As employees become more skilled and knowledgeable, they become better equipped to contribute to the organization's goals, innovate, and maintain high standards, ultimately leading to improved operational efficiency and overall success. This highlights the direct connection between education, training, and performance, supporting the hypothesis that training education influences operational performance. Thus, we conclude:

H4: Training education influences operational performance.

Drawing from the literature review and aligned with the research objectives, the issues addressed in this study are as follows:

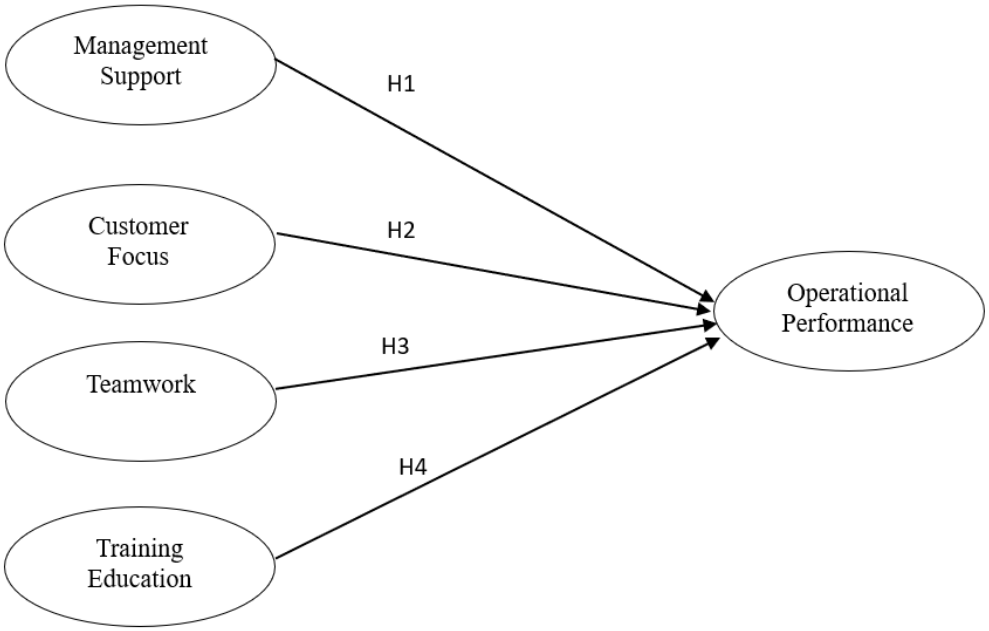

Figure 1. Framework

RESEARCH METHOD

This research employed a quantitative data analysis method. The population comprises all employees at PT Arohera, with a total of 40 respondents. Non-probability sampling was utilized, specifically through a saturated sampling technique, where all members of the population were included as samples. Therefore, the sample for this study comprises 40 individuals. Data were collected using a questionnaire based on a Likert scale (Wati et al., 2024), which includes options ranging from "strongly agree" to "strongly disagree." The Likert scale used in this study ranges from 1 to 5, where 1 represents strongly disagree, 2 represents disagree, 3 represents neutral, 4 represents agree, and 5 represents strongly agree. For data analysis, descriptive tests were performed with the assistance of Partial Least Squares (PLS) software, focusing on both the outer and inner models (Wati et al., 2024).

In this study, statements were distributed via Google Form (GForm) and collected feedback online. The proposed method facilitates efficient data tabulation and processing. The statements encompass five key variables: management support, customer focus, teamwork, education and training, and Operational Performance. For Management Support, the statements examine how the company encourages employees to actively engage, supports initiatives for quality improvement, empowers employees effectively, and consistently acknowledges and rewards their contributions. In the Customer Focus category, these statements highlight the company's commitment to addressing customer complaints, identifying their needs, ensuring customer satisfaction, and maintaining strong direct relationships with them. Regarding Teamwork, the statements emphasize collaboration among employees in task execution, shared responsibility for work quality, corporate assistance in overcoming challenges, efficient communication among team members, and alignment of team objectives. For Education & Training, the statements reflect the

company's dedication to establishing high-quality standards, including quality assurance, managing training and development programs based on quality principles, and maintaining a structured training system. Lastly, in terms of Operational Performance, the statements focus on a company's capability to boost sales, conduct effective product inspections, enhance work efficiency, and consistently uphold quality standards in work outcomes.

The next step involves analyzing the relationships between variables through both direct and indirect connections using structural equation modeling. These relationships are represented in equation form, resulting in the following research model:

$$OP = a + b_1 MS + b_2 CF + b_3 TW + b_4 TE + e1$$

FINDINGS AND DISCUSSION

Descriptive Test

The characteristics of the respondents in this study are explained in Table 2 below:

Table 2. Characteristics of respondents

Characteristics	Information	Amount	Percentage
Gender	Man	35	87%
	Woman	5	12%
	Amount	40	100%
Age	21-30	13	32%
	31-40	15	37%
	>45	12	30%
	Amount	40	100%
Experience work	< 2	7	17%
	2-6	20	50%
	>6	13	32%
	Amount	40	100%

Source: Author Calculation (2024)

The questionnaire findings indicate that the employee demographic is predominantly male, with the majority falling within the age range of 31 to 40 years. In addition, most employees have work experience ranging from 2 to 6 years.

Table 3. Descriptive Statistics of Research Variables

Variable	Mean Range	Category
Total Quality Management	3.13 – 3.93	Agree
Continuous Improvement	3.35 – 3.68	Agree
Employee Empowerment	3.33 – 3.53	Agree
Operational Performance	3.28 – 3.93	Agree

Source: Source: Researcher's Analysis, 2024

Based on the analysis of the questionnaire results, all research variables indicate that respondents generally agree with the statements provided. The Total Quality Management variable has a mean range of 3.13 to 3.93, with the highest agreement at 3.93, suggesting strong support for certain aspects, while the lowest mean of 3.13 indicates areas for improvement. The Continuous Improvement variable ranges from 3.35 to 3.68, showing positive reception although some

elements may require further enhancement. Employee empowerment falls between 3.33 and 3.53, reflecting moderate agreement, with the highest support at 3.53. Lastly, Operational Performance has a mean range of 3.28 to 3.93, with the highest agreement at 3.93, indicating strong approval for certain aspects, while the lowest value of 3.28 suggests areas needing attention. Overall, all variables have mean values above 3, demonstrating a general tendency of respondents to agree with presented statements.

On a Likert scale of 5 and with the confidence level used in this study, the results indicate that the highest average score of 3.93 is found in the Total Quality Management and Operational Performance variables, suggesting that respondents strongly agree with certain aspects of these variables. This confirms that the implementation of total quality management and operational performance has received significant support from respondents, although some aspects still require improvement.

Assessment of Validity and reliability test (outer model)

Based on the data analysis, all outer loading values are greater than 0.5, specifically for the Management Support, Focus on Customers, Teamwork, Training and Education, and Operational Performance variables. Therefore, we conclude that all indicators have sufficient convergent validity and can be used to measure the latent variables in this study. The details of each indication's factor loadings are summarized in the Table below:

Table 4. Validity Test

Variable	Items/Indicators	*Outer Loading*	Information	*Cronbach alpha*
Management support	X1 .1	0.655	Valid	0.783 (Reliable)
	X1 .2	0.797	Valid	
	X1 .3	0.834	Valid	
	X1 .4	0.819	Valid	
Focus on customers	X2 .1	0.818	Valid	0.823 (Reliable)
	X2 .2	0.890	Valid	
	X2 .3	0.710	Valid	
	X2 .4	0.810	Valid	
Teamwork	X3.1	0.708	Valid	0.796 (Reliable)
	X3.2	0.676	Valid	
	X3.3	0.901	Valid	
	X3.4	0.595	Valid	
	X3.5	0.821	Valid	
Training education	X4.1	0.792	Valid	0.565 (Reliable)
	X4.2	0.700	Valid	
	X4.3	0.701	Valid	
Operational performance	Y .1	0.887	Valid	0.851 (Reliable)
	Y .2	0.944	Valid	
	Y .3	0.753	Valid	
	Y .4	0.735	Valid	

Source: Results processed by Smart PLS

The loading factors in the table above demonstrate convergent validity, as indicated by the route diagram output, where each indicator value exceeds 0.5. Based on the data analysis, all latent

constructs met the reliability criteria. Based on the data analysis, all latent constructs met the reliability criteria. Additionally, the five latent constructs—Management Support, Customer Focus, Teamwork, Training and Education, and Operational Performance—exhibit Cronbach's alpha values of 0.783, 0.823, 0.796, 0.565, and 0.851, respectively (all exceeding the threshold of 0.6). This confirms the reliability of these constructs, allowing the analysis to proceed to the next level: the inner model examination.

Table 5. Reliability and Convergent Validity

Reliability and Validity	**Cronbach's Alpha**	**rho_A**	**Composite Reliability**	**Average Variance Extracted (AVE)**
Focus on customers	0,823	0,839	0,883	0,656
Management support	0,783	0,803	0,860	0,608
Operational performance	0,851	0,890	0,901	0,696
Teamwork	0,796	0,820	0,862	0,560
Training education	0,565	0,566	0,776	0,536
Fornell-Larcker Criterion	**Focus on customers**	**Management support**	**Operational performance**	**Teamwork**
Focus on customers	0,810			
Management support	0,792	0,780		
Operational performance	0,777	0,830	0,834	
Teamwork	0,875	0,778	0,839	0,748
Training education	0,664	0,591	0,638	0,663
Heterotrait-Monotrait Ratio (HTMT)	**Focus on customers**	**Management support**	**Operational performance**	**Teamwork**
Focus on customers				
Management support	0,984			
Operational performance	0,901	0,980		
Teamwork	1,080	0,975	0,996	
Training education	0,975	0,891	0,913	0,975

Source: *Results processed by Smart PLS*

Based on the data analysis in the table above, the test results for construct reliability and validity in the Outer Model are presented. In general, construct reliability is adequate, with Cronbach's Alpha, rho_A, and Composite Reliability values above 0.7, except for Training Education, which is lower (0.565). Convergent validity was also met, as AVE values exceeded 0.5, although Teamwork had a slightly lower (0.560). However, discriminant validity based on HTMT showed some values above 0.90, particularly for Teamwork (1.080) and Management Support (0.984).

This study examines five key constructs in Total Quality Management (TQM): management support, customer focus, teamwork, education and training, and Operational Performance (Sabil et al., 2023). The findings reveal that certain construct correlations surpass the square root of the Average Variance Extracted (AVE) and that the Heterotrait-Monotrait Ratio (HTMT) values exceed 0.90, indicating potential concerns regarding discriminant validity.

Nevertheless, these strong interrelationships can be theoretically justified based on TQM principles. TQM highlights the interconnectedness and mutual dependence of its components in

ensuring an organization's sustainable quality. For example, Management Support, which involves empowering and assisting employees, significantly enhances teamwork because effective collaboration is difficult without leadership support. Likewise, Customer Focus is closely linked to teamwork and education and training because a well-trained and cohesive team is more capable of addressing customer needs. Additionally, Operational Performance depends on all these elements because achieving optimal outcomes requires managerial backing, proper training, and effective teamwork (Abedelgadir et al., 2021).

While the statistical analysis suggests high correlations that could impact discriminant validity, this is not necessarily problematic within the TQM framework (Akanmu et al., 2021; Naufal, 2021; Salleh et al., 2018). Since TQM promotes a holistic approach by integrating multiple factors to maintain a sustainable quality system, some overlap in the construction measurements is expected. Thus, despite the observed interdependencies, these five constructs remain distinct yet complementary components that collectively strengthen an organization's quality management efforts.

Evaluation of Goodness of Fit Structural Model (Inner Model)

R^2 represents the percentage of variance in the dependent variable that can be explained by variations in the independent variables, as measured by the coefficient of determination. The results for the coefficient of determination of the research variables are presented in Table 6 below:

Table 6. R Square

Variable	R Square	Adjusted R-squared value
Operational performance	0.788	0.764

Source: Results processed by Smart PLS

According to the information in Table 6, the R^2 value for the operational performance variable is 0.788, indicating that management support, customer focus, teamwork, and training education collectively account for 78% of the impact on operational performance. The remaining 22% is attributed to other variables not included in the research model, as well as error factors.

In this study, the sample consisted of 40 employees who represented the entire population. This study acknowledges that, according to Hair et al. (2017), the *10 times rule* in PLS-SEM suggests that the minimum required sample size is 50 respondents. However, due to limited access to additional respondents, the population coverage could not be expanded. To address this limitation and ensure the validity of the results, this study conducted a robustness check using the bootstrapping method with 5,000 subsamples.

Table 7. Bootstrapping: 5,000 Subsamples

Relationship Between Variables	Original Sample (O)	Sample Mean (M)	2.5%	97.5%
Focus on Customer → Operational Performance	-0.067	-0.037	-0.331	0.289
Management Support → Operational Performance	0.449	0.438	0.195	0.657
Teamwork → Operational Performance	0.486	0.474	0.164	0.824

Relationship Between Variables	Original Sample (O)	Sample Mean (M)	2.5%	97.5%
Training Education → Operational Performance	0.095	0.095	-0.074	0.246

Source: Results processed by Smart PLS

The bootstrapping results provide confidence intervals for each relationship between variables. The relationship between customer focus and operational performance had a confidence interval of (-0.331, 0.289), indicating a non-significant result as it includes zero. The relationship between management support and operational performance had a confidence interval of (0.195, 0.657), indicating a significant positive effect. Similarly, teamwork and operational performance had a confidence interval of (0.164, 0.824), also showing a significant effect. Meanwhile, training and education about operational performance had a confidence interval of (-0.074, 0.246), indicating a nonsignificant result as it includes zero.

These findings indicate that management support and teamwork have a significant impact on operational performance, whereas focus on customers and training/education do not have a significant effect. Although the number of respondents did not reach 50, the bootstrapping results with 5,000 subsamples demonstrate the consistency of the model estimation and strengthen the validity of the study's findings, making them suitable for analysis and conclusion drawing.

Hypothesis Testing

In this study, statistical results are employed for each partial direct effect pathway to assess the hypotheses.

Table 8. Hypothesis testing

Hypothesis (Hypothesis)	*Correlation* (Connection)	*Direct and indirect effects*			*Conclusion* (Conclusion)
		Original Sample	T-Statistics	P-*Value (1-Tailed)*	
H1	Management support => operational performance	0.449	3,716	0,000	**H1 Accepted**
H2	Focus on customers => operational performance	-0.067	0.428	0.334	**H2 Rejected**
H3	Teamwork => operational performance	0.486	2,872	0.002	**H3 Accepted**
H4	Training education => operational performance	0.095	1,211	0.113	**H4 Rejected**

Source: Results processed by Smart PLS

Based on the Smart PLS analysis, this study employs a one-tailed hypothesis test, as indicated by the P-Value (1-Tailed) column. The choice of a one-tailed test is based on the assumption that independent variables, such as management support, customer focus, teamwork, and education and training, have a directional influence on operational performance, as supported by previous research (Kabede & Virdi, 2021). The analysis results show that management support

and teamwork have a significant impact on operational performance, whereas customer focus and education and training do not exhibit a significant effect. The use of a one-tailed test is more appropriate because this study is grounded in theory-based hypotheses that predict specific directional effects rather than merely testing for differences without a predetermined direction.

DISCUSSION

Influence of management support on operational performance

The findings indicate a positive relationship between management support and operational performance, with an original sample value of 0.449. This suggests that strengthening management support at PT Arohera is a key driver of enhanced operational performance. Effective management is vital to ensuring that daily operations are carried out efficiently and effectively, which ultimately contributes to the overall success of the organization. PT Arohera places a strong emphasis on management support as a core component of its operational strategy. The company recognizes that its employees are its most valuable asset and focuses on their empowerment through continuous training and development programs. These initiatives are designed not only to improve technical skills but also to develop essential soft skills, enabling employees to grow in alignment with both the company's strategic objectives and their personal career goals. PT Arohera believes that empowering employees leads to increased commitment, productivity, and job satisfaction, and as such, is committed to fostering a work environment that supports individual development and overall well-being.

These findings are consistent with Hadli (2017), who underscored the significant impact of top management support on operational performance. Furthermore, Truong et al. (2015) highlighted that top management plays a crucial role in setting policies that encourage innovation and sustainability, including strategic investments in advanced machinery, cutting-edge technology, automation improvements, and enhancing preventive maintenance practices. By implementing such policies, PT Arohera continues to enhance its operational capabilities and ensure long-term growth and sustainability.

The Effect of Customer Focus on Operational Performance

This study reveals that customer focus does not have a significant impact on operational performance, with an original sample value of -0.067. This suggests that increasing customer focus at PT Arohera does not directly enhance operational performance. Despite efforts to prioritize customer satisfaction, the company's current customer complaint handling processes are not yet fully optimized, which indicates areas for improvement. To better address customer concerns, PT Arohera must implement a more robust system, such as establishing a 24/7 support network across multiple channels, including call centers, email, and social media platforms. This allows the company to effectively capture, track, and analyze customer complaints in real time. Additionally, the development of strict standard operating procedures (SOPs) for managing complaints from initial receipt to final resolution would ensure a more structured and efficient response process. PT Arohera already has a quality control team to monitor adherence to these standards, but it is crucial that the company also prioritizes follow-ups with customers after issues are resolved to assess their satisfaction and demonstrate a commitment to continuous improvement. This proactive approach to customer complaint management is vital for maintaining trust and loyalty and ensuring that customers feel heard and valued.

Mahmud et al. (2019) found that TQM does not significantly impact organizational performance, while other studies, such as those by Winarty and Farchan (2017), also identified minimal impact when customer focus was directly linked to performance. These findings suggest

that although customer focus is important, more comprehensive systems and consistent efforts are required to drive operational performance improvements.

The Effect of Teamwork on Operational Performance

The findings of this study indicate that teamwork has a positive influence on operational performance, with an original sample value of 0.486. This suggests that stronger teamwork at PT Arohera is a key driver of improving operational outcomes. Effective collaboration among team members fosters efficiency, encourages rapid problem-solving, and ensures high-quality output. Teamwork plays a crucial role in creating a work environment in which individuals can combine their skills and expertise to achieve common goals, ultimately driving better performance across the organization.

PT Arohera strongly emphasizes aligning team members around a shared vision and set of objectives. The company organizes regular meetings to communicate its goals and strategies, ensuring that all team members are fully informed and actively involved in discussions about the company's direction. This approach not only provides an opportunity for diverse input but also promotes a sense of ownership and accountability among employees, as they feel that their contributions directly influence the company's success. PT Arohera is committed to maintaining open lines of communication and encouraging continuous collaboration, believing that these practices are integral to achieving collective goals and fostering a positive organizational culture.

These findings align with previous research, including studies by Qasrawi et al. (2017), Ralahallo and Pattipeiluhu (2017), and Sumardi and Fernandes (2020), all of which have demonstrated a positive relationship between effective teamwork and enhanced organizational performance. The evidence highlights that when teams work cohesively and are empowered to contribute their ideas and skills, they can significantly improve the overall performance and success of the organization.

The Influence of Training Education on Operational Performance

The results revealed that training and education had no significant effect on operational performance, with an original sample value of 0.095. This suggests that while investing in employee education and training is an important aspect of organizational development, it does not directly translate into improvements in operational performance. Despite the company's efforts in providing various training opportunities, including technical skills, soft skills, and leadership development programs, the direct impact on operational performance remains limited. This indicates that further enhancement of the training approach or better integration of training outcomes into daily operations may be necessary.

These findings are consistent with research by Singkoh et al. (2018) and Tatontos et al. (2019), which found that while training and education are valuable, they did not have a significant effect on organizational performance. Additionally, Gaspar et al. (2019) argued that an overemphasis on quality alone, without addressing other factors, such as innovation, leadership, and operational efficiency, does not meaningfully influence overall company performance. This underscores the need for organizations to adopt a more holistic approach that integrates training efforts with other strategies that drive tangible performance improvements.

The findings of this study reflect the conditions at PT Arohera, which has specific industry characteristics, organizational culture, and managerial policies. Applying these findings to other industries or companies must consider differences in organizational structure, business type, and operational dynamics. In service-based industries, Customer Focus is likely to have a more significant impact on operational performance than in manufacturing companies. Meanwhile, training and education tend to have a greater influence in sectors that rely on innovation and

technical expertise. Further research in different sectors or business environments is necessary to test the consistency of the relationships identified in this study.

The analysis of this study reveals that Management Support and Teamwork play crucial roles in enhancing Operational Performance at PT Arohera. Strong management support fosters employee empowerment, leading to greater commitment, efficiency, and job satisfaction, ultimately improving operational outcomes. Similarly, effective teamwork enhances collaboration, problem-solving, and overall productivity, ensuring that organizational goals are achieved efficiently. These findings align with previous research, reinforcing the critical role of leadership and teamwork in improving performance.

However, this study also finds that customer focus and training, and education do not have a significant impact on Operational Performance in this specific context. Although customer satisfaction remains an important aspect of business success, its direct influence on operational outcomes at PT Arohera appears to be limited. Similarly, despite the company's investment in training programs, the immediate effects on operational performance are not evident, suggesting that training outcomes may take longer to manifest or require better integration with daily operations. These insights contribute to the understanding that not all quality management practices have uniform effects across different industries and operational settings.

The novelty of this research lies in its industry-specific analysis of Total Quality Management (TQM) elements and their direct impact on operational performance. Unlike previous studies that generalize the effects of TQM across various sectors, this research highlights the varying significance of quality management dimensions in manufacturing. Additionally, it emphasizes the need for a context-driven approach in implementing quality improvement strategies because the effectiveness of TQM practices can differ based on industry characteristics, company structure, and workforce dynamics. This study provides a foundation for further research exploring how different operational environments influence the success of TQM practices.

CONCLUSIONS

The study concludes that management support has a positive effect on operational performance, whereas customer focus and training education do not have a significant impact. Additionally, teamwork has a positive influence on operational performance. Based on these findings, several managerial implications can be drawn for PT Arohera. Ensuring that operational teams have the necessary resources, clear performance metrics, and regular evaluations is crucial for maximizing the effectiveness of management support. Providing teams with the tools they need, setting well-defined goals, and consistently assessing progress will help drive operational efficiency and align efforts with the organization’s objectives.

In terms of customer focus, PT Arohera should prioritize the development of systems that allow for the consistent collection and analysis of customer feedback. This will help the company better understand customer needs and preferences, enabling it to create tailored solutions and improve customer experiences. Moreover, fostering a culture of innovation within the organization, where feedback is actively used to drive product and service improvements, will further enhance customer satisfaction and loyalty.

For teamwork, an environment that encourages collaboration across departments and promotes open communication is essential. Encouraging team-based problem solving, knowledge sharing, and mutual support will help the organization achieve its goals more effectively. In addition, offering incentives and recognition for team achievements can motivate employees, increase engagement, and promote a sense of ownership, which enhances overall performance.

Finally, in the area of training and education, PT Arohera should take a more targeted approach by identifying specific skill gaps and training needs within the workforce. Allocating

sufficient resources to address these gaps and regularly evaluating the effectiveness of training programmes will ensure that the workforce remains competitive and well-equipped to meet the demands of the business. Continuous feedback on the outcomes of training programmes will help refine the approach and ensure that the training provided aligns with the company's long-term objectives. By taking these steps, PT Arohera can enhance its operational performance and drive sustainable growth across its key areas of focus.

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LIMITATION OF RESEARCH

The limitations of this research lie in its narrow scope, as it focuses on a limited set of variables: management support, customer focus, teamwork, and training education, within the context of PT Arohera alone. While these variables provide valuable insights into the factors influencing operational performance, this study does not consider other potentially significant factors that could have an impact, such as organizational culture, leadership styles, technological adoption, innovation, or external market conditions. Additionally, the research is based on a single organization, which may limit the generalizability of the findings to other industries or contexts.

Future research should aim to broaden the scope of the study by incorporating additional relevant variables that may influence operational performance. For instance, factors such as employee engagement, leadership effectiveness, organizational structure, and CSR could provide a more comprehensive understanding of the dynamics at play. Expanding the sample size to include multiple organizations from different industries and regions could also enhance the robustness and applicability of the findings. Furthermore, longitudinal studies could be useful for examining how these variables evolve and impact operational performance in both the short and long term. By addressing these gaps, future research can offer a more holistic view of the drivers of organizational performance, ultimately providing deeper insights that can guide effective management practices across various organizational settings.

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