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Original research article

How Influenced Management Behavior is on the Implementation of Total Quality Management (TQM) and Company Operational Performance

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ABSTRACT

The implementation of TQM to improve product quality does not only focus on systems and technology but also requires competent human resources such as leadership, technical competence, and organizational culture as users and controllers of systems and technology. This will have an impact on the company's operational performance which is expected to continue to increase. This research aims to analyze and test the influence of leadership, technical competence, and organizational culture on the implementation of Total Quality Management (TQM) and its impact on operational performance. The research method used is a descriptive statistical method with an explanatory type. The sampling technique was carried out in a proportional cluster, randomly sampling all ceramic workers in 4 different companies with a total of 368 respondents. The analysis technique used is Covariance-based Structural Equation Modeling (SEM) analysis, and the application used is Lisrel. The research results show that leadership directly influences the implementation of TQM to run well as 33,80%. Technical competition directly influences TQM at 21,10%. Organizational culture has a direct influence on TQM at 16,70%. Meanwhile, the impact of TQM is very influential and has a direct effect on the operational performance of the ceramic industry, so it can increase company profits.

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1. Introduction

Indonesia is one of the largest manufacturing industrial bases in the Association Shoutheasht Asian Nations (ASEAN) with a contribution of 20.27% to the national economy. The development of the manufacturing industry in Indonesia is currently able to shift the role from commodity-based to manufacture-based [1]. Meanwhile, the government is trying to transform the economy so that it focuses more on the development process of the non-oil and gas industry [2]. The Manufacturing Value Added (MVA) growth rate for the Indonesian manufacturing industry is in 5th position among ASEAN countries with an achievement of 4.5%. Nowadays, customers demand high-quality standards in a very dynamic global

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business environment, so only organizations that are determined to provide good quality will be successful because international business competition is getting tougher and more complete [3]. Every organization must have a very relevant concept, namely quality system improvement, and is a strategic factor that plays an important role in the consistency of the organization [4]. An organization must place high emphasis on quality to appropriately meet customer needs and desires so that the organization will lead to the realization of improved competitive position and business success [5].

The Indonesian ceramic industry is very promising along with the increasing demand for property needs, be it office buildings, residential houses, flats, simple healthy houses, and various other types of property [6]. Several factors influence the competitiveness of marketing in the ceramics industry, namely: research and development, marketing, production, natural resources, and finance which are most necessary to regulate the running process of an industry [7], [8]. In the current era of globalization, various small industries, for example, ceramics, are required to be able to compete and compete healthily to increase productivity rates to ensure survival [9]. Therefore, the ceramic industry in Indonesia also needs to be improved in terms of quality, quantity, and prices so that can compete with other countries. Everything cannot be separated from how the management manages and regulates the ceramic industry so that its productivity performance is maintained [10]. Many companies have not analyzed why their operational performance is not profitable. Many factors influence this, including the lack of implementation of TQM so far. Meanwhile, TQM is influenced technically and non-technically. Technically it is the responsibility of production and quality management must make continuous improvements. but non-technically it is also influenced by less competent human resources including less than optimal leadership styles, lack of technical competence in problem-solving, and poor organizational culture in carrying out company operations [11].

Many organizations have implemented the TQM approach, which is one of the most commonly adopted and prominent quality improvement philosophies in the world of quality management improvement business [12]. Other research states that customer knowledge management influences the perception of higher education quality through the mediating role of customer relationships [13]. Some empirical evidence shows a direct and indirect relationship between TQM practices and organizational performance [14]. Several researchers found positive and significant effects of implementing TQM on operational performance [15]. The scientific findings described above show that the implementation of TQM has a positive and significant influence on the organization's operational performance.

Implementing TQM to improve product quality does not only focus on systems and technology but also requires competent human resources [15]. TQM is closely related to users and controllers of systems and technology because, without competent human resources, the company's systems and technology will not function optimally [16]. The readiness of human resources to master technology plays an important role in the successful implementation of TQM to improve the company's operational performance [17]. TQM is a concept that seeks to implement a world-class quality management system. This requires major changes in the culture and value system of an organization, which are influenced by behavior management variables.

The lack of optimal implementation of TQM is indicated by a lack of firm leadership, low technical competence from management, and poor organizational culture. So the implementation of TQM that is not supported by these variables will affect the company's operational performance [18], [19]. The ceramic industry sector cannot be separated from the leadership style of organizations, where management influences the progress of an organization. Indicators that trigger less-than-optimal leadership roles, especially in terms of communication, control of subordinates, and responsibility [20], [21]. High leadership competence in implementing the nine TQM principles effectively can produce higher-quality products [22]. Organizations can agree on the values and beliefs within the organization, according to changes in people in the workplace, and consistent coordination of individual and organizational goals to help increase people's creativity and improve the organization's criteria base [23].

Other research related to behavior management through population surveys shows the influence of big data and predictive analytics on improving supply chains and operational performance by providing insight into the role of external pressure in resource selection by moderating the influence of big data culture [24]. The level of awareness of knowledge management by experienced and less experienced teachers is positive and commendable, with the local government providing a conducive environment for teachers to develop in the field of knowledge management [25]. Based on the above phenomenon, the

author is interested in how to improve the company's operational performance by implementing TQM which can be implemented well, with support from managerial employees in the form of leadership, technical competence, and good organizational culture and can run smoothly without many problems.

This research focuses on how much influence management behavior has on the implementation of TQM so it is something new in this research. Other new things also have an additional impact on operational performance which affects productivity in the ceramics industry. The main problem of this research is an analysis of how much influence behavioral management variables, namely leadership, organizational culture, and skills competency have on the implementation of TQM and the operational performance of organizations operating in the ceramics industry. This research aims to identify the relationship between factors that influence the implementation of TQM and its influence on operational performance.

This research is based on customer dissatisfaction with the operational performance of an organization, where delays in delivery, poor communication, and decisions from leadership take a long time. Therefore, the discussion is related to the influence of leadership variables, technical competence, and organizational culture on the implementation of TQM, and its impact on operational performance as an applied theory. Next, there is a discussion of previous research to strengthen the research that will be carried out and to see the extent of the originality and position of this dissertation research compared to several studies that have been conducted by previous researchers. This research focuses more on how an organization can achieve the maximum possible level of operational performance which is influenced by TQM and several management behaviors embedded in an organization.

TQM is an approach that emphasizes continuous improvement of production processes through improving quality, reducing production costs, and increasing productivity [17]. The ultimate goal of the TQM concept is to achieve customer satisfaction and efforts to reduce errors/imperfections in the goods or services produced. customer focus, obsession with quality, scientific approach, long-term commitment, teamwork, continuous system improvement, education, and training [26]. Operational performance is a measurement of company performance against effective and efficient standards or indicators for company operations [27]. Company performance assessments are usually included in the Key Performance Indicator which contains productivity, cost, quality, and delivery [28]. To achieve TQM several supporting variables are needed such as leadership, employee discipline, organizational culture, and others. The relationship between variables depends on the population size and samples taken during the research [29].

2. Research Methodology

This type of research is causal because it analyzes the extent of the relationship between independent variables, intervening variables, and dependent variables. The independent variables here are the characteristics of management behavior, including leadership, technical competence, and organizational culture. Analysis of the influence of the relationship between operational performance variables, TQM implementation, leadership, technical competence, and organizational culture. Leadership variables, technical competence, and organizational culture. Management behavior is an independent variable, while TQM implementation is an intervening variable and operational performance is a dependent variable.

This type of research includes descriptive research, because there is a clear picture of the situation in which the relationship between management behavior influences operational performance, while verification research aims to find out and verify the clarity of the relationship between variables (testing hypotheses) through data collection in the field. The research steps can be seen in Figure 1.

Based on Figure 1, this research began with collecting data by determining the characteristics of respondents and questionnaires. This research uses a survey method by taking samples from the population of ceramic producers using questionnaire techniques as a data collection tool. The subjects of this research were operational employees in the floor ceramic industry registered on the Indonesia Stock Exchange (ISE). This research methodology was carried out on four-floor ceramic industry companies registered with ISE, so this research covers the entire ceramic industry. Other information is obtained through surveys to obtain information from authorized managers in the company. So we hope that this research will produce decisions that can be accounted for, have transparency, and become a reference for other research in the future. The number of respondents in this study was 368 people, a total of four ceramic companies.

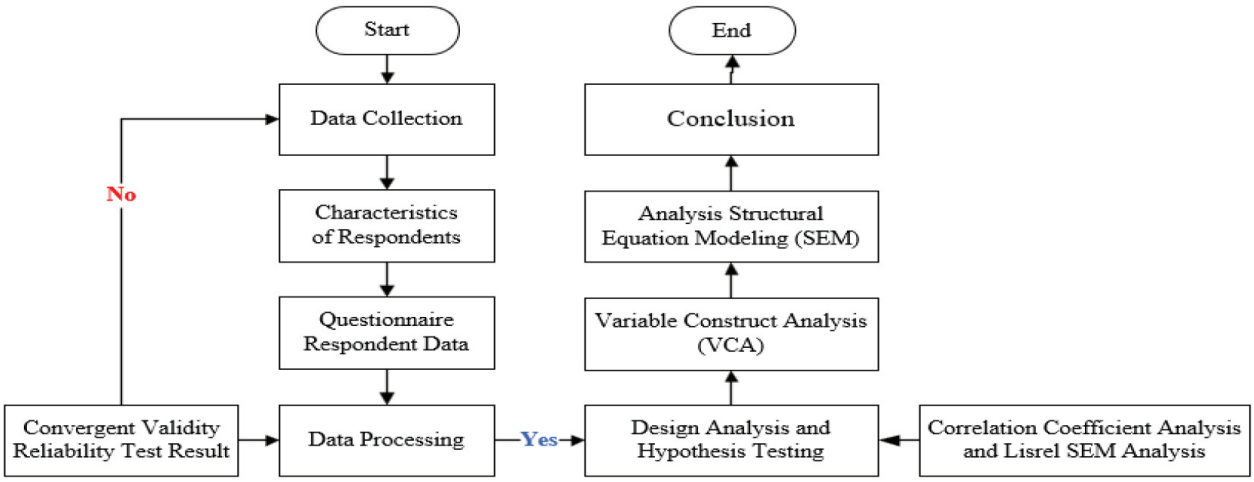

Figure 1. Research stages

After the data has been collected, the next step is processing the data using the convergent validity and reliable test method. Then carry out data quality tests such as validity and reliability testing to determine the accuracy of the question instrument. If the data has been confirmed as valid and reliable then it continues to the next stage, and if otherwise the data is not valid and reliable then it will return to data collection. After that, data processing was carried out using the Lisrel SEM method and other calculations. This research uses the Structural Equation Modeling (SEM) method which emphasizes the use of covariance due to the large number of samples [30]. The SEM method in this research comes directly from the output of the Lisrel program, which is software developed to process SEM data. After the Lisrel SEM data is obtained, the next step is to analyze the results by determining Correlation Coefficient Analysis, Lisrel SEM Analysis, and Variable Construct Analysis (VCA). Then the final step is to determine the conclusion of how big the influence between these variables is.

3. Hypothesis and Operational Variable

This section will highlight the research hypothesis and indicators of the operational variables used. As for the conceptual model of this research, the relationship between variables can be seen in Figure 2.
Hypothesis:
H1: Influence of leadership on TQM.
H2: The influence of technical competency on TQM.
H3: The influence of organizational culture on TQM.
H4: Effect of TQM on operational performance.

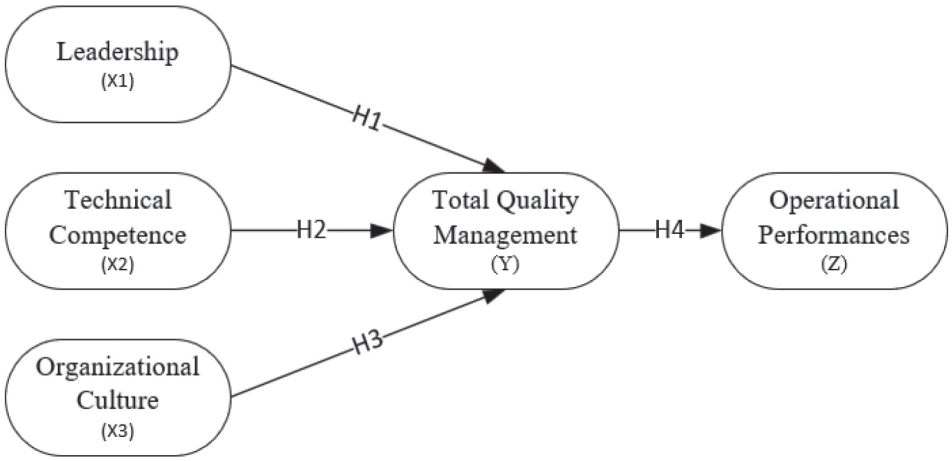

Figure 2. Conceptual model

Table 1. Operational variable

Variable	Dimensions	Indicator	Symbol	References
Leadership (X1)	Director	Good briefing	X1.1	[31]
		Direction of the company's vision and mission	X1.2	
	Communicator	Good communication	X1.3	
		Good cooperation	X1.4	
		Prevention of misunderstandings	X1.5	
	Decision-making	Authority and responsibility	X1.6	
		Decisions in completing work	X1.7	
	Motivating	Encouragement, supervision of subordinates	X1.8	
		Employee behavior and characteristics	X1.9	
Technical Competency (X2)	Knowledge	The knowledge that supports work	X2.1	[32] [33]
		Willingness to increase knowledge	X2.2	
	Skill	Technical expertise according to the field	X2.3	
		Identify problems and find solutions to problems	X2.4	
	Attitude	Initiative in helping colleagues	X2.5	
		Friendliness and politeness	X2.6	
		Seriousness in carrying out work	X2.7	
Organizational Culture (X3)	Innovation	Encourage and excite employees	X3.1	
		Courage to take risks	X3.2	
		Risk-taking actions by employees	X3.3	
	Results Orientation	Attention to results and collaboration	X3.4	
		Focusing on company goals	X3.5	
	Aggressive Attitude	Aggressively implement organizational culture	X3.6	
		Competitive in carrying out organizational culture	X3.7	
	Stability	The status quo and maintaining good	X3.8	
		Organizational growth and balance	X3.9	
	Attention to detail	Precision in details	X3.10	
		Analyze the details	X3.11	
		Attention to details	X3.12	
Total Quality Management (Y)	Organization Leadership	Successful implementation of TQM	Y1.1	[26]
		Implementation and drivers of TQM implementation	Y1.2	
		Motivating employees	Y1.3	
	Customer Satisfaction & Relationship	Satisfaction with internal and external customers	Y1.4	
		Products produced	Y1.5	
		Improving the quality of work and performance	Y1.6	
		The company responded quickly	Y1.7	
	Human Resource Management	The company provides training to employees	Y1.8	
		Producing a product or service	Y1.9	
		Company Resources	Y1.10	
	Strategic Planning and Development	The company has a vision and mission and carries it out	Y1.11	
		Strategic planning	Y1.12	
		Strategic planning and development	Y1.13	
	Supplier Management	Strategic cooperation with suppliers	Y1.14	
		Alliance with suppliers	Y1.15	
		Involve suppliers	Y1.16	

Operational Performance (Z)	Productivity	The job was done effectively	Z1.1	[34]
		Work is done efficiently	Z1.2	
	Product Quality	The resulting product is defective	Z1.3	
		The quality of the production results meets the standards	Z1.4	
	Quality Costs	Costs incurred for prevention	Z1.5	
		Costs of dealing with internal failures	Z1.6	
		Costs of Overcoming External Failures	Z1.7	
	Accuracy of products reaching consumers	Accuracy of product delivery	Z1.8	
		Accuracy of delivery quantities	Z1.9	
		Accurate conformity of packaging contents with provisions	Z1.10	

This research uses three independent variables, one intervening variable, and one dependent variable. Each variable is divided into dimensions and indicators. The following operational variables for this research can be seen in Table 1.

Based on Table 1 regarding standards and challenges, this research has 5 variables that are interconnected with each other. Meanwhile, the 5 variables are explained generally in several dimensions, totaling 20 dimensions. Furthermore, from the dimensions several questions or indicators will arise as challenges in answering the existence of an organization with a total of 47 indicators. The breakdown of leadership variables focuses more on how management manages prospective leaders in making the right decisions using a comprehensive assessment of all indicators.

4. Results and Discussion

4.1 Analysis and Results

The determination of respondents in this study was aimed at employees who work in ceramic factories listed on the ISE. The selection of respondents was based on the workforce adjusted for education level, length of service, and position. The identities of respondents who have completed the questionnaire can be seen in Table 2, while the type of ceramic can be seen in Table 3.

Based on Table 2, the highest number of respondents was from the noble ceramics company at 34.5% because the number of employees was the largest among other companies. Table 3 shows that the high-

Table 2. Characteristics of respondents

Education		Years of Service		Position	
High School	88.04%	<1 year	13.32%	Operator	74.46%
Diploma 3	4.35%	1-5 years	22.55%	Leader	16.03%
Bachelor 1	7.61%	5-10 years	11.41%	Supervisor	7.07%
		10-15 years	5.98%	Superintendent	1.36%
		>15 years	46.74%	Manager	1.09%
Total	100%		100%		100%

Table 3. Questionnaire respondent data

Ceramic Type	Amount samples (person)
Arwan type	99
Kaesar type	64
Kia type	78
Mulia type	127
Total	368

est number of respondents was among those with high school education at 88.04%, work experience >15 years at 46.74%, and operator positions at 74.46%.

`Validation of the collection of questionnaire results is carried out using the Pearson product-moment method, provided that data processing is said to be validated if the correlation between the total score and the score for each question is greater than 0.3 [35]. The results of testing the validity of the questionnaire can be seen in Table 4.

Instrument reliability is carried out to determine the level of confidence in the freedom of measurement results from error. The higher the reliability coefficient, the higher the level of confidence in the measurement results. The instrument used is known to be reliable if it has a Cronbach Alpha > 0.70 [36]. The instrument reliability results can be seen in Table 5.

Based on Table 5, all test variables have Cronbach Alpha test results > 0.70, so it can be said that the data is reliable for further data processing. The data that has been collected is then used to analyze and test the hypothesis testing formulation based on SEM using

Table 4. Convergent validity

Number	Critical R-Value	Leadership (X1)	Technical Competency (X2)	Organizational Culture (X3)	Total Quality Management (Y)	Operational Performance (Z)	Remarks
1	0.300	0.661	0.650	0.665	0.684	0.712	Valid
2	0.300	0.596	0.656	0.656	0.675	0.695	Valid
3	0.300	0.626	0.678	0.748	0.697	0.672	Valid
4	0.300	0.619	0.644	0.693	0.675	0.663	Valid
5	0.300	0.640	0.669	0.728	0.677	0.733	Valid
6	0.300	0.674	0.604	0.683	0.714	0.688	Valid
7	0.300	0.633	0.638	0.712	0.780	0.703	Valid
8	0.300	0.638	0.676	0.588	0.768	0.682	Valid
9	0.300	0.681	0.694	0.606	0.744	0.694	Valid
10	0.300	0.623	0.606	0.760	0.689	0.658	Valid
11	0.300	0.610	0.654	0.584	0.700	0.653	Valid
12	0.300	0.618	0.620	0.723	0.722	0.681	Valid
13	0.300	0.626	0.678	0.679	0.652	0.637	Valid
14	0.300	0.643	0.648	0.713	0.700	0.652	Valid
15	0.300	0.685	0.670	0.699	0.673	0.660	Valid
16	0.300	0.679			0.718		Valid
17	0.300	0.633			0.692		Valid
18	0.300				0.725		Valid
19	0.300				0.643		Valid
20	0.300				0.665		Valid
21	0.300				0.680		Valid
22	0.300				0.766		Valid
23	0.300				0.655		Valid
24	0.300				0.651		Valid
25	0.300				0.692		Valid
26	0.300				0.738		Valid
27	0.300				0.737		Valid

Table 5. Reliability test result

Variable	Cronbach's Alpha	Critical Value	Remarks
Leadership	0.931	0.700	Reliable
Technical Competency	0.928	0.700	Reliable
Organizational Culture	0.937	0.700	Reliable
Total Quality Management	0.966	0.700	Reliable
Operational Performance	0.936	0.700	Reliable

LISREL 8.80 software to obtain a model as in Figure 3. The relationship structure of all variables in this research includes leadership, technical competence, organizational culture, and TQM implementation, and its impact on operational performance can be seen in Figure 3.

4.2 Correlation Coefficient Analysis

The results of data processing through correlation coefficient analysis in this section aim to determine the level of closeness of the relationship between independent variables. Meanwhile, the output results of the correlation coefficient of leadership, technical competence, and organizational culture can be used using the SPSS program application (Table 6).

Based on Table 6, the relationship between independent variables can be described as follows.

1. The relationship between the variables Leadership (X1) and technical competence (X2), obtained a correlation coefficient value of 0.614. Thus, it can be said that the relationship between these two variables is strong and positive.

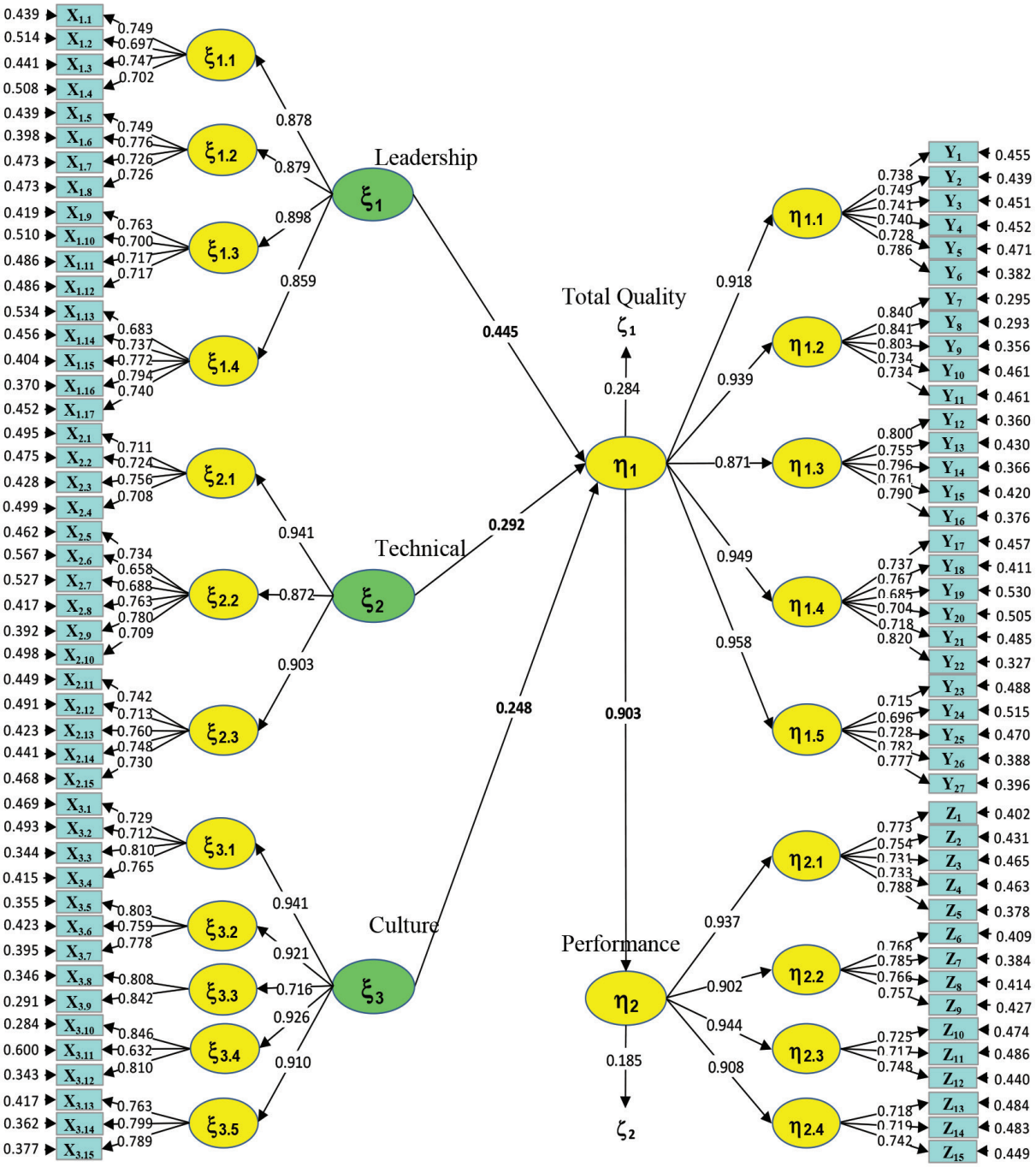

Figure 3. Lisrel SEM analysis results

Table 6. Correlation between variables

Correlation Parameters		Leadership (X1)	Technical Competence (X2)	Organizational Culture (X3)
Leadership (X1)	Pearson Correlation	1	.614**	.548**
	Sig. (2-tailed)		.000	.000
	N	368	368	368
Technical Competence (X2)	Pearson Correlation	.614**	1	.632**
	Sig. (2-tailed)	.000		.000
	N	368	368	368
Organizational Culture (X3)	Pearson Correlation	.548**	.632**	1
	Sig. (2-tailed)	.000	.000	
	N	368	368	368

**. Correlation is significant at the 0.01 level (2-tailed)

2. The relationship variable between Leadership (X1) and organizational culture (X3), obtained a correlation coefficient value of 0.548. Thus, it can be said that the relationship between these two variables is moderate and positive.
3. The relationship variable between technical competence (X2) and organizational culture (X3), obtained a correlation coefficient value of 0.632. Thus, it can be said that the relationship between these two variables is strong and positive.

4.3 Variable Construct Analysis (VCA)

The results of the variable construct verification analysis have been carried out using the Confirmatory Factor Analysis (CFA) testing method with several requirements. Meanwhile, the results of data processing show that a variable is said to have good validity for the construct or latent variable if the T-factor loading value is greater than the critical value (FL ≥ 1.96) and the standard factor loading is greater than (Standardized Factor Loadings (SFL) ≥ 0.70). The relative importance and significance of the factor loading of each item, state that a standard factor loading (SFL) value ≥ 0.50 is very significant and the indicator can be declared valid [37].

The results of data processing are in the form of measurement consistency testing in this research which has been carried out using composite reliability measures and variance extraction measures. Furthermore, a construct has good reliability if it has a Construct Reliability (CR) value ≥ 0.70, and an Average Variance Extracted (AVE) value ≥ 0.50. Next, the results of the CFA measurement model are obtained for the relationship between each variable and its indicators, which is shown by the factor loading of each indicator.

4.4 Analysis Structural Equation Modeling (SEM)

The results of this research are through analysis of the structural models that have been formed, which have been carried out by paying attention to the relationship coefficient values or numbers that emerge from each model. This research has discussed the values of model suitability indicators (Fit Indexes) as LISREL output. The purpose of the results of this analysis is to see whether the model obtained meets the Goodness of Fit (GoF) measure so that it can be said that the model obtained from the comparison between data and model is good based on the criteria in Table 7.

Meanwhile, the influence between variables can be seen in Table 8.

Based on the research results, this leadership variable has contributed a direct influence to the implementation of the TQM variable by 19.80%, the technical competency variable has an indirect influence of 8.00% and the organizational culture variable has an indirect influence of 6.00%, so it can be concluded that the influence indirect leadership towards TQM implementation in total is 14.00%. This shows that leadership can increase the success of TQM implementation without being supported by technical competence and organizational culture. Based on data processing, the technical competency variable has a direct influence on the implementation of TQM by 8.50%, the organizational culture variable has an indirect influence through the leadership of 8.00%, and the organizational culture variable has an indirect influence through the leadership of 4.60%, so the total

Table 7. Model Fit Criteria

No	Indicator	Mark Benchmark	Mark Acquisition	Model Fit Criteria
1	Chi-Square	< 2df	4468,5 < 2 (3799)	Model Fit
2	Probability (p-value)	≥ 0.05	0.058	Model Fit
3	Root Mean Square Error of Approximation (RMSEA)	≤ 0.08	0.022	Model Fit
4	Normed Fit Index (NFI)	≥ 0.90	0.976	Model Fit
5	Comparative Fit Index (CFI)	≥ 0.90	0.995	Model Fit
6	Incremental Fit Index (IFI)	≥ 0.90	0.995	Model Fit
7	The Root Mean Square Residual (RMR)	< 0.05	0.039	Model Fit
8	Parsimonious Goodness of Fit Index (PGFI)	0-1	0.978	Model Fit

Table 8. Influence between variables

Variable	Path Coefficient	Direct Influence	Indirect Influence			Total Indirect Effect	Total Influence
			(X1)	(X2)	(X3)		
(X1)	0.445	19.80%		8.00%	6.00%	14.00%	33.80 %
(X2)	0.292	8.50%	8.00%		4.60%	12.60%	21.10%
(X3)	0.248	6.10%	6.00%	4.60%		10.60%	16.70%
		34.41%				37.20%	
Total Influence of X1, X2 and X3 on Y							71.60%
Influence of Y on Z							81.50 %

influence indirect technical competence through the implementation of TQM equals 12.60%. This shows that technical competence can increase the success of implementing TQM if technical competence in the company is improved and supported by strong leadership and organizational culture and improved together.

Based on the results of data processing, the organizational culture variable has a direct influence on the implementation of TQM of 6.10%, an indirect influence through leadership of 6.00%, and an indirect influence through technical competence of 4.60%, so the total indirect influence of organizational culture on the implementation of TQM is equal to 10.60%. This shows that organizational culture can increase the success of implementing TQM if the organizational culture in the company is improved and supported by strong leadership and technical competence and must be improved together.

Based on the results of data processing, it can be stated that in total partial influence, the leadership variable has the greatest influence on the implementation of TQM, namely 33.80%. Therefore, this research can be concluded that to increase the implementation of TQM it must be supported by strong leadership. However, the contribution of the influence of other variables that influence the implementation of TQM examined in this research is also quite large, namely technical competence at 21.10%, and organizational culture at 16.70%.

This research can also be said that simultaneously the influence of leadership, technical competence, and organizational culture on the implementation of TQM in the floor ceramic industry listed on the ISE is 71.60%. So this research can be concluded that the implementation of TQM is still influenced by variables from outside the research model by 28.40%. Some external variables that may have an indirect influence include the importance of management commitment, involvement of all employees, implementation of a quality management system, and so on. Thus, the results of the proposed conceptual hypothesis have been successfully tested and can be accepted partially or simultaneously. The calculation results obtained show that the TQM implementation variable is influenced by leadership variables, technical variables, and organizational culture variables.

Currently, the condition of implementing TQM in the floor ceramic industry listed on the IDX is in the moderate to the good category, so this is a potential challenge in the future to increase the level category to superior. It should be noted that the strategic planning and development dimension provides the highest description with the indicator of evaluating work for continuous improvement and the customer satisfaction & relationship dimension provides the

lowest description with the lowest indicator of quick response to customers' ever-changing desires. This is an opportunity for every ceramic industry to increase customer satisfaction in terms of quality, quantity, and delivery by managing TQM and good and efficient company performance.

5. Discussion

Leadership and TQM implementation have a relationship. This is in line with [31] that the relationship between the activeness of management in leading a company greatly influences the condition of organizational culture in achieving company goals. Transformational leadership and knowledge management produce a correlation between transformational leadership style and knowledge management 0.784 which is relatively high [38].

Technical competence can increase the success of implementing TQM if the company's technical competence consistently carries out training programs for all its employees. This is in line with [39] which states that technical competence is an important factor that is discussed in the idea of total quality management so that the implementation of quality management is more integrative and oriented towards business excellence.

Organizational culture can increase the success of implementing TQM if the organizational culture in the company is improved. This is in line with [29] which states that organizational quality is the biggest factor in improving TQM.

The implementation of TQM is influenced by leadership variables, technical competency variables, and organizational culture variables either partially or simultaneously. This is in line with [26] that there is an influence of implementing TQM on organizational performance with customer focus, continuous improvement, strategy-based, and total employee involvement having a positive and significant effect on organizational performance.

Basically, in terms of application in the ceramics industry, the variables of leadership, technical competence, and organizational culture have a significant influence on the implementation of TQM in the ceramics industry. Several efforts to improve management behavior above need to continue to be developed comprehensively and continuously so that the successful implementation of TQM will be achieved which will also have an impact on improving the company's operational performance. Meanwhile, efforts to optimize the implementation of TQM at a high and sustainable level will be able to foster improvements in operational performance in the ceramic industry. So operational performance is a very important aspect in improving company performance.

In principle, the relationship between operational performance and TQM is influenced by several management behavior variables that support it and can be applied to an organization. The ceramic industry which applies Lisrel analysis in processing data both internally and externally has produced a positive influence of work discipline on company performance and a positive influence of leadership on organizational operational performance. The competency technique applied in company policy in employee assessment is how to group abilities from lower to upper levels so that you will know what kind of competency needs are suitable for handling them. Meanwhile, leadership is also inseparable from many companies disseminating new rules and holding training internally and externally. This will increase the insight and knowledge of every potential leader who will face greater challenges in the future. Furthermore, related to organizational culture which is strong in employee behavior to maintain a harmonious working atmosphere, there is a positive influence in supporting the operational performance of a company in the existence of running its organization.

The limitation of this research is that it is only carried out in the ceramic industry which is registered on the ISE so this industry has shares open to the public. This research has been completed with a limited research time of only 1 year during 2022 and only 4 companies were the research sites. The contribution of this research includes knowledge in operations research and analysis because this research measures variables that can influence the company's operational performance (dependent variable) which are influenced by the implementation of TQM (intervening variable). Meanwhile, the implementation of TQM is strongly influenced by the simultaneous presence of leadership, technical competence, and organizational culture (independent variables).

6. Conclusion

Based on the analysis in the previous section, it is known that leadership directly influences the implementation of TQM to run well. Technical competition directly influences TQM. Organizational culture has a direct influence on TQM. Meanwhile, the impact of TQM is very influential and has a direct effect on the operational performance of the ceramic industry, so that it can increase company profits.

The implications of this research in theory can be an additional reference for other researchers regarding the Influence of management behavior on the implementation of TQM and its impact on operational performance. While the practical implications of this research from the research results can be used as a reference in terms of improving the operational performance of the ceramic industry which is greatly influenced by the implementation of TQM, in implementing TQM it is necessary to have leadership, technical competence, and organizational culture which are always maintained by interested parties in the ceramic organization. The focus of future research suggestions is more on adding other external variables that can influence operational performance in ceramic companies in Indonesia.

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