

Achieving Organizational Performance in Food Companies: The Critical Role of Leadership and Continuous Improvement as Part of TQM Practice

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Abstract

This study investigates the critical role of the dimension of TQM practice to enhance organizational performance. A total respondent is 182 including top management personnel, managers, and engineers from food companies. Analysis has shown that the practice of TQM positively influences organizational performance with significant value for leadership and continuous improvement. This study indicates that TQM is considered a key factor for the survival of companies in Indonesia's East Java region to face global trade competition in the future.

Keywords: total quality management practice; leadership; continuous improvement; and organizational performance.

1. Introduction

The total quality management (TQM) is recommended to help companies improve efficiency, competitiveness [1], and performance [2-4]. TQM is a holistic approach that integrates all organizational functions to meet customer needs and organizational goals [4]. TQM emphasizes the importance of the culture of improving products [5]. TQM is also a tool to improve quality [6]. The success of TQM implementation depends on "change acceptance" [7, 8]. Individual change readiness will improve organizational change [9] and performance [10]. Companies must implement continuous improvement (CI) as part of readiness to accept change.

Companies must create a culture that focuses on CI [11]. CI is the basis of TQM practice [12, 13]. CI is an organizational renew process that creates new behavior in managerial practice [14]. CI is identical to detailed problem solving, high frequency, short cycle change [15], providing leadership, support enablers [13], waste reduction campaign [16], and related to incremental change [17]. Companies that implement CIs need significant effort and focus on the long term [16]. Companies that increasingly focus on continuous improvement will have an impact on improving company performance.

The development of the food industry in Indonesia has found the importance of quality as a strategic factor to compete in national and international markets. One proof is the increasing interest of food company entrepreneurs to implement TQM in the last few years after the opening of the Asian Economic Community Global Trade 2016. Gadenne and Sharma [18] reveal that the factors that exist in TQM can provide customer satisfaction that ends in a sustainable competitive advantage for the company. The food industry plays an essential role in the Indonesian economy as a developing country from the perspective of generating employment and economic growth. The food and beverage industry sector accounted for 35.39% of the most significant contribution to the gross domestic product (GDP) of the 2017 non-oil and gas industry sector and added value in most developing countries in the Southeast Asia region. Study have shown reasonable conclusions about the effect of

TQM and organizational performance results in reducing yield waste, production effectiveness, financial improvement, and overall quality improvement in products and services [19-21]. TQM is also related to an increase in customer satisfaction, renewal in quality, or improved relations between employees. There are other studies that different reveal things where the effectiveness of TQM implementation sees the relationship between quality management and performance [2, 22].

We find a research gap, where several studies are stating that TQM Practice can improve a firm's performance [23-29], but some failed to prove their positive influence [30]. Some researchers find that TQM practice has an indirect relationship to performance [31-33]. There is insufficient empirical evidence regarding TQM practices and their impact on developing food companies in Indonesia; this study is based on an in-depth literature review aimed at linking effective TQM practices and their impact on organizational performance in food companies in the East Java region of Indonesia. So, this study investigates the critical role of the dimension of TQM practice to enhance organizational performance.

2. Literature Review and Hypotheses

Many unanswered questions related to TQM in developing countries. For example, what dimensions of TQM have the most significant impact on a company's performance on an ongoing basis. Various components in TQM still need to be explored more deeply and their impact on the company's performance. The field of quality management is increasingly looking for the best ways to improve company image. TQM literature shows that the effectiveness of TQM implementation requires a set of driving factors. Some authors have attempted to define several dimensions of TQM that shape organizational performance [34-36]. Valmohammadi [21] identified seven TQM keys, among others *leadership, Process Control and Improvement, customer focus, communications, and quality information system (QIS), employee management and involvement, supplier management dan, tools, and techniques*. The researchers identified a variety

of significant relationships between TQM factors and various measures of operational and business performance.

In the 1980s, Taguchi and Ishikawa created methods related to quality measurement. Taguchi [37] created six sigma as a quality planning method and advocated the importance of product and design management processes. Ishikawa [38] promote team use or quality circles and seven quality measuring instruments in performance improvement. In its development, other experts emphasized the importance of a comprehensive system view to improve company performance [39]. Several decades later, various questions related to the processes and practices that underlie the improvement of company performance were proposed. The implementation of TQM is believed to lead to an increase in overall company performance. Several studies show a positive relationship between TQM implementation and its impact on achieving company performance [40]. TQM as a company vision that can only be achieved through long-term planning, by compiling and implementing an annual quality plan that gradually leads the company towards fulfilling its vision [41]. Prajogo and Sohal [42] explained in more detail by stating that TQM is a system that is dynamic according to the environment and aims to meet the needs or even exceed consumer expectations that emphasize customer focus, strategic focus, leadership focus, process focus, people focus, scientific focus, continual improvement and innovation, and learning, thinking system. Also, there are empirical studies that measure company performance using TQM criteria in manufacturing industries [4, 43-46]. These studies explore various theoretical and empirical problems. If TQM planning is appropriately implemented, it will have an impact on various fields, including increasing customer needs, improving internal organization communication, better problem solving, and reducing error rates.

2.1. TQM Practice and Organizational Performance

Yunis, Jung [47] reveal that the findings of TQM and its elements have a positive relationship with business performance in food manufacturing, namely the implementation of TQM influences competitive strategies and the achievement of operational performance. The latest research that focuses more on the implementation of TQM in the Food industry is Psomas, Vouzas [48] stating that the elements of TQM such as leadership, process control, and improvement, customer focus, employee participation, supplier management, and continuous improvement are useful in achieving quality internal and external companies, have a direct impact on continuous quality improvement. A review of the literature previously identified there has been no comprehensive study and comparative analysis of TQM practices and performance of food companies in the Indonesian context. Based on the findings and literature collected, the central hypothesis in this study is:

H1: There is a relationship between the practice of TQM and the performance of food company organizations.

2.2. Leadership

The successful implementation of TQM through the provision of resources and the time needed to permit and support performance improvements through leadership. Fening, Amaria [49], revealed that the great need for a better understanding of quality because of changes and competition in the business world must be supported by a consistent leadership function. Therefore, company management and leadership must believe in TQM and ensure that the principles, strategies, and advantages of implementing TQM are clear and well-defined for all employees in the organization. Sadikoglu and Oclay [50] reveal that managers must act as leaders by supporting the development of employees and encouraging their participation in decision making while increasing the level of awareness of TQM practices. Based on the literature review, the hypothesis proposed is

H1a: There is a relationship between leadership and perfor-

mance of food company organizations

2.3. Process control

The main purpose of process management is to analyze, understand, and manage the processes involved in meeting customer demand [51]. Process improvement is closely related to continuous improvements, such as accurate data that is important for management and employees as a reference in making strategic decisions related to quality. The team must recognize and classify quality problems and propose solutions that then the solution must be filtered to choose the best solution to be implemented. Some quality tools can be used by food company quality such as causal diagrams, histograms, Pareto diagrams, control sheets, and control diagrams [52]. Process management includes correctly identifying and documenting process management procedures with the instructions needed for the machine operation and adjustment process; these documents are installed in each work station which serves to minimize the possibility of operator errors. This approach is used to control processes and improve the quality of production. Based on the literature review, the hypothesis proposed is

H1b: There is a relationship between the process control and the performance of food company organizations.

2.4. Customer Focus

Companies that implement TQM must focus on customer service as well as possible. Thus, customer expectations can encourage companies to produce high quality and reliable products/services on time with increased efficiency and productivity. Because of this, sales and market share increased with the company's commitment [50]. Customer focus can significantly affect the company's financial performance through a better understanding of customer requirements that will lead to optimal production costs. Assarlind and Gremyr [53] verify that customer focus can contribute positively to business operations.

Meanwhile, customer focus is associated with employee satisfaction because its strategy requires high participation and involvement from employees, especially human resources who have regular interactions with customers [54]. Employee empowerment is crucial to achieving the ultimate goal of customer focus, and managers need to work with employees to make them valued and valued by companies [55]. This is also considered an important aspect that contributes to employee satisfaction at the highest level. Based on the literature review, the hypothesis proposed is

H1c: There is a relationship between customer focus and the performance of food company organizations.

2.5. Employee Participation

TQM focuses on a culture that involves all employees in achieving work performance and development [56]. By the findings of Harington et al. (2012), employees in TQM are considered as internal customers with whom the company must exchange services and information. The study also recommends conducting an employee survey to define attitudes about management, safety, quality, and working conditions, which will help management to recognize employee needs and areas that need to be improved. TQM implementation contributes to changing the negative attitudes of some employees, reducing conflicts between employees, and ensuring a better understanding of product quality [49]. So a conducive work environment will be created where people inside have confidence, ability, and commitment to take responsibility. Management must continuously monitor skills and must be willing to help the team when it cannot solve the problem. Based on the literature review, the hypothesis proposed is

H1d: There is a relationship between employee participation and the performance of food company organizations.

2.6. Supplier Management

Fening, Amaria [49] show that supplier management is a major part of quality management; this is because the material provided is usually the main source of problems in quality. A close relationship between suppliers and producers must be achieved to ensure that suppliers provide quality materials. Harrington, Voehl [52] revealed that TQM pays attention to suppliers from labor and material. Scheduled visits and good communication can also help in winning supplier loyalty and therefore, improving the relationship between the organization and suppliers. Marefat and Faridfathi [57] reveal that organizations obtain quality input through supplier quality management. Ardianto and Natsir [58], in his findings, revealed that material management, proximity to customers, and companies have an essential role in improving organizational performance. Management must focus on efforts and time in clarifying several low-cost and quality suppliers to supply materials through coordination between departments such as purchasing, procurement, engineering, planning, and quality control. Companies must use appropriate techniques and structures that are well-chained, sophisticated scheduling, and transportation if they want to produce quality products. Based on the literature review, the hypothesis proposed is

H1e: There is a relationship between supplier management and the performance of food company organizations.

2.7. Continuous Improvement

TQM's primary concern is continuous improvement in all processes ranging from high-level planning and decision-making to implementing work. Starting from the belief that defects and mistakes can be avoided and prevented. Continuous improvement is a dynamic process that focuses on the relationship between service improvement programs, materials, and organizational customers, suppliers, competitors, and market capital [14]. According to Chauhan, George [51], the quality management environment needs to be continuously monitored and reviewed. Harrington, Voehl [52] also reveal that the repair process never ends. Thus, management under TQM must support the improvement of existing technology and management techniques. Heavy and Murphy [59] suggest a continuous improvement framework that includes the value of shared leadership with customers, strategic objectives focusing on customer value, increasing specialization of knowledge, and improving methods. Based on the literature review, the hypothesis proposed is

H1f: There is a relationship between continuous improvement and the performance of food company organizations.

2.8. Research Framework

Based on the literature review, the framework was developed to discuss the relationship between TQM practices and organizational performance in the context of food companies in East Java, as illustrated in Figure 1.

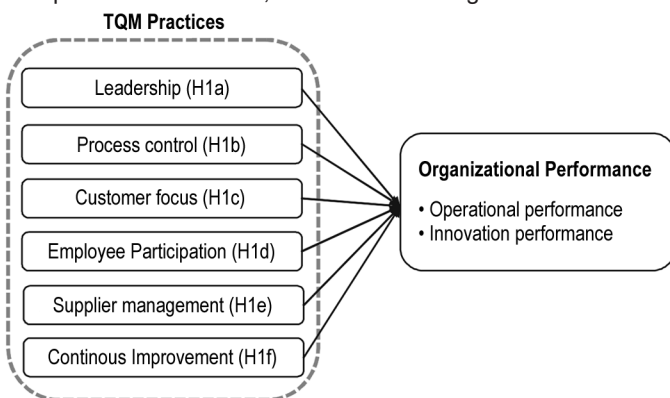


Figure 1. Theoretical Model of the research

3. Methodology

3.1. Research Measures, Sample and Population

This research is deductive because research is investigated through the construction of hypotheses that are applied theoretically, which are then tested for hypotheses that have been carried out. In this study, six constructs were used to measure the practice of TQM. Meanwhile, three constructs are used to measure organizational performance. The research began by distributing online questionnaire forms via email. A total of 18 questions representing the practice of TQM were adapted from the Fotopoulos and Psomas [45]. While seven questions represent organizational performance adapted from Sadikoglu and Oclay [50]. The questionnaire used includes closed questions, where respondents are presented on a 5-point Likert scale. The scale dimensions are clarified as follows: (1 = Strongly disagree), (2 = Disagree), (3 = Neutral), (4 = Agree), (5 = Strongly agree). The revealment of the questionnaire is shown in appendix A.

3.2. Questionnaire Distribution

The questionnaire was distributed to top management personnel, managers, and engineers from food companies in the East Java region of Indonesia. In detail, it includes the Planning Department, Quality Department, Engineering Department, Logistics Department, Labor Department, Production Department, and Inventory Department. A total of 343 questionnaires were distributed through online e-mail questionnaires to 49 food companies in six months. 182 the questionnaire received a good response consisting of 26 food companies in the East Java region registered with the Ministry of Industry of the Republic of Indonesia, based on the directory report of the Ministry of Industry food company in 2018. This condition shows a response rate of 53%

3.3. Data Analysis

Data obtained from questionnaires were analyzed using SPSS version 21.0. The mean and standard deviation are calculated for the remaining items after EFA. The Pearson Correlation Analysis was conducted to examine the relationship between dependent and independent variables. Statistical analysis using multiple linear regression is appropriate. The multiple regression method and analysis of variance (ANOVA) was carried out to test the main hypothesis of the model. The decision criterion is to accept the main hypothesis if the significance level is less than 0.05, and when F is calculated > F is tabulated.

4. Result and Discussion

Because this study uses initial measurements based on the literature review, the steps in this study are mostly considered to have validity. Those who generally measure TQM in the context of the food industry. Field [60] mentions that factor analysis is regularly used to develop questionnaires; this is because the questions asked are related to the construct the researcher

Variables	Number of Items	Cronbach's Alpha
TQM Variables	A Total of 18 Items	
Leadership (LED)	3	0.854
Process Control (PCN)	3	0.909
Customer Focus (CFS)	3	0.902
Employee Participation (EPN)	3	0.923
Supplier Management (SMN)	3	0.871
Continuous Improvement (CIN)	3	0.773
Organizational Performance Variables	A Total of 7 Items	
Operational Performance (OPN)	3	0.850
Innovation Performance (IPN)	2	0.785
Economic Performance (EPN)	2	0.612

Table 1. Reliability of the Variables (Cronbach's Alpha)

wants to measure. Therefore Exploratory Factor Analysis (EFA) is done to validate the measurement instrument used. Factor analysis is to drain a large number of correlated actions into several representative constructs. Therefore, all elements are subject to EFA to ensure that they have construct validity.

To ensure that the data collected is suitable for EFA, Kaiser-Mayer-Olin (KMO) tests and the Barlett Test must be done first. The KMO test is used to prove the sampling is sufficient for analysis and must be higher than 0.70. The Barlett test is used to test whether the correlation between items is large enough for EFA and is accepted at a significance level of <0.05 (Mthembu et al., 2016). Principal Component Analysis (PCA) is carried out for extraction methods and to summarize available information from the total number of variables and reduce it to a smaller number (Smith, 2002). The initial analysis is done to get eigenvalues for each factor. Eigenvalues greater than 1 are chosen as the basis for extracting the appropriate amount of construction. Next, and to get more results that can be interpreted, so that the orthogonal rotation method or called the Varimax Rotation Method (VRM) is done. The loading factor is expected to be above 0.70, and each factor is analyzed separately, and the number of contracts is determined in the factor with the identical item.

Variables	KMO Values	Bartlett's Values
Leadership (LED)	0.935	0.000
Process Control (PCN)	0.861	0.000
Customer Focus (CFS)	0.913	0.000
Employee Participation (EPN)	0.933	0.000
Supplier Management (SMN)	0.866	0.000
Continuous Improvement (CIN)	0.800	0.000
Operational Performance (ORM)	0.760	0.000

Table 2. KMO and Bartlett's Testing

To assess the reliability of the measurement scale, an internal concentration test using the Cronbach's Alpha reliability coefficient was carried out. Field [60] also applies the Cronbach's Alpha criteria > 0.6. Most studies suggest that a Cronbach's Alpha value is between 0.7-0.8 is an acceptable value. Table 1 shows the value of Cronbach's Alpha for the construct in this study. Values range between (0.6-0.9), which means that the constructs in this study are acceptable, and our questionnaire has internal consistency.

Exploratory Factor Analysis (EFA) was carried out on 18 items of TQM factors and seven organizational performance items. All items have a KMO value greater than 0.7, and a Barlett value is less than 0.05, as shown in table 2, which means that the data is sufficient to conduct an EFA. Thus, from the analysis of the main components, five new constructs: 3 are related to the practice of TQM and two construction related to organizational performance, all of which have eigenvalues greater than one and 3 of the 25 items having values less than 0.7 based on matrix rotation or 88 percent be accepted.

Appendix B describes variants of the independent variables along with the items extracted with their contents after EFA.

Person correlation analysis was conducted to observe the level of relationship between organizational performance and TQM practices. Appendix C shows a matrix correlation between dependent and independent variables. It was revealed that each leadership, employee performance, continuous improvement had values above 0.5, and Process control, Customer fuss, and Supplier management had values above 0.2, which meant a strong positive linear relationship with organizational performance.

In this study, hypothesis testing uses multiple linear regression. Testing is done in two stages. In the first stage, testing was carried out to test TQM practice on organizational performance. The test results show that TQM Practice has a positive and significant effect on organizational performance ($\beta = 0.954$; p-value = 0.000). So H1 is accepted. The second stage, testing, was carried out by examining the effect of each TQM dimension

of practice on organizational performance. Table 3 shows that only hypotheses H1a and H1f are accepted. This shows that leadership and continuous improvement can significantly improve organizational performance.

Hypotheses	β	p-value	Decision
H1: TQM practice → Organizational performance	0.954	0.000	Supported
H1a: Leadership → Organizational Performance	0.314	0.002	Supported
H1b: Process Control → Organizational Performance	0.040	0.538	Rejected
H1c: Customer Focus → Organizational Performance	0.037	0.342	Rejected
H1d: Employee Participation → Organizational Performance	-0.094	0.314	Rejected
H1e: Supplier Management → Organizational Performance	0.095	0.166	Rejected
H1f: Continuous Improvement → Organizational Performance	0.513	0.000	Supported

Table 3. Hypotheses Testing

Leadership has a significant influence on organizational performance, which is characterized by the role of top management in looking at improving quality as the main thing to increase company profitability. This study shows that leadership is a critical role of TQM Practice. By the above conditions, top management must actively develop an integrated quality plan to meet the business objectives requested by the company's stakeholders. Senior executives' commitment must support both of these to the quality target, and customer satisfaction must be the first.

Also, Continuous Improvement has a role in organizational performance, which is characterized by each company having a culture of continuous improvement that ensures continuous improvement is always a major part of the company. This is proven by the implementation of the quality approach to company management as a form of service support and ongoing business processes. Quality management elements such as quality team, quality audit team, control team, and integrated quality system are available to manage the organization to achieve competitive advantage.

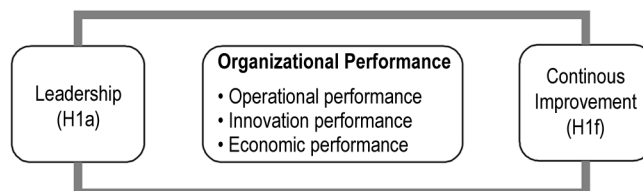


Figure 2. Suggested TQM practices in the food companies in East Java

4.1. Research Findings

This study also shows that leadership ($P = 0.002$) and continuous improvement ($P = 0.001$) are the main practices that affect most of the company's performance in food companies in East Java, Indonesia. Based on the results of this test, it can be seen by employees in food companies in East Java Indonesia, seeing more effort must be made to improve the two practices above to improve performance sustainably. Based on the results of this study, a framework can be used by food companies in East Java in Indonesia to improve their performance in the future.

Policymakers and managers of food companies in East Java Indonesia can benefit from the conclusions of a framework that has been developed to improve organizational performance. Employees can begin to develop integrated quality plans to meet business objectives and continually improve the company's internal management system. Managers must also encourage employees to pay attention to customer needs; this can be done by preparing customer databases with their current and future

needs. This database must be updated continuously to maintain customer satisfaction. Scheduling meetings with suppliers regularly and involving them as part of integrated quality planning will reduce the risk of differences in understanding of quality, risk of defects in raw material delivery, and errors in attaching food and Halal safety documents. It is recommended that managers also have to master basic statistical techniques that mark irregularities in the operational processes that run within the company.

5. Conclusions and Recommendations

This study is to measure the effect of total quality management on the performance of companies in food companies in East Java, Indonesia. The end of this study confirms that the practice of TQM significantly affects organizational performance. These results are obtained from the evidence that empirical support for the application of TQM in manufacturing organizations will contribute to the performance, the survival of the organization, and organizational competitive advantage ($R = 56.3\%$) as mentioned above. The results of this study also verify that food companies in East Java see quality management as a critical factor for the survival of the company. This finding can also provide a better understanding of the field of total quality management through research studies on the relationship between what aspects exist in TQM and their relationship to organizational performance.

These results are appropriate and support some previous researchers who examined the relationship between TQM practices and organizational performance such as Fotopoulos and Psomas [45] which reveal that one of the essential factors to improve the performance of manufacturing organizations is the implementation of TQM. This is in line with Kumar, Choisine [4], which reveals that empirically the application of TQM will have a positive impact on improving organizational performance. Herzallah, Gutierrez-Gutierrez [3] reinforce that the implementation of TQM and focus on the quality of the final product will enhance the competitive advantage of a business. Sadikoglu and Oclay [50] reinforce with their findings stating that the practice of TQM generally improves company performance.

6. Research Limitations and Future Studies

First, this study are based on perceptual data provided by managers and strategic decision makers within the scope of departments working in the corporate sector (Planning, Quality, Engineering, Logistics, Labor, Production, and Inventory), which may not provide clear images related to the framework used. This is expected to be suitable as a source of information gathering from several stakeholders, such as customers and suppliers. More precisely, the willingness of respondents and the sending of data in the time requested is a big challenge for this research and does not forget to maintain the confidentiality of respondents.

The data framework, carefully selected, which reflects the main TQM practices that can be found in food companies in East Java, Indonesia. Therefore, researchers recommend further research considering longitudinal studies, their integration with the development of information systems, and patterns of application in different industries that might provide a greater contribution to the company.

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