



Impact of Total Quality Management Implementation on Managerial Performance Improvement

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Abstract

This study aims to analyze and examine the effect of Total Quality Management, which consists of continuous system improvement and education and training on improving managerial performance. We conducted this study at PT Bumi Karsa by involving 50 managers, heads of departments, supervisors, and staff from PT Bumi Karsa. The data in this study were collected by distributing questionnaires and processed using the SPSS tool. The testing stage consists of several analytical steps: validity test, reliability test, multicollinearity test, and normality test. The hypothesis in this study was tested using the R-Square test, F-test, and t-test. The results of this study indicate that Total Quality Management, which consists of continuous system improvement and education and training, influences improving managerial performance at PT Bumi Karsa. It is recommended that companies conduct more frequent training and education on maintaining relationships with customers, maintaining and improving product quality standards, increasing motivation to achieve improvements in the company's way of working, and leadership training.



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1 Introduction

The development of companies in the current era of globalization is becoming increasingly dynamic (Hartanto, 2018; Ahmad et al., 2018). This is a logical consequence of the increasing development of world trade, which requires existing companies to survive to compete for profits (Dewi, 2019). In the era of globalization, managerial performance must receive extra attention because the company's external parties are becoming more critical and thorough in determining which company to invest their funds in (Saputra et al., 2020).

Sallis, (2014) explained that until now, the most appropriate system to be used as a tool to keep companies competitive and able to survive is the concept of Total Quality Management (TQM). TQM allows companies to remain competitive with other companies because the basic concept is a periodic or continuous improvement

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(Savolainen, 2000). In the TQM concept, ten characteristics can affect a manager's performance: customer focus, obsession with quality, scientific approach, long-term commitment, teamwork, continuous system improvement, education and training, controlled freedom, unity of purpose, and involvement. And employee empowerment (Zink, 2012). With TQM, companies can continually evaluate their performance, starting with changing work culture (Fransiska, 2018).

The concept of TQM is contrary to thinking in western countries and in Indonesia itself. In western countries, the focus of work is placed on professionalism and specialization. Therefore, everything related to quality control is only controlled by quality control specialists (West, 2019). If quality control is questioned by people in other company divisions, apart from quality control, they certainly cannot answer it (Hackman & Wageman, 1995).

This thinking has not developed much until now. Meanwhile, in Indonesia, quality control tends to be delegated to the operational division. Both assumptions still need to be refined again. Quality control should be carried out by everyone in every division of the company to obtain customer-oriented products, namely products with the best quality. The participation of all members of the company is mandatory because the good or bad performance of a company is not only the responsibility of individuals or divisions. TQM is indeed considered a tool that can improve managerial performance, as evidenced by Nasrun (2018) research. The research results by Lubis, (2005) found no evidence that organizations that practice TQM can achieve high performance. This makes researchers want to see the consistency of research on the effect of TQM on managerial performance.

This research is a replica of the research that has been done by Zulaika (2008). The difference between this study and the research conducted by Zulaika lies in the independent variable used as the stimulus for the dependent variable. Previous researchers used four of the ten characteristics of TQM as independent variables, namely: customer focus, continuous system improvement, education and training, and employee involvement and empowerment, while in this study, researchers used two of the ten characteristics of TQM, namely: continuous system improvement sustainability, education, and training. The researcher only uses two of the ten characteristics of TQM because the researcher sees that the company has experienced a change in leadership which has changed the family culture to become professional, which emphasizes the role of education and continuous system improvement to achieve a company that can compete in the era of globalization.

This research was conducted at PT Bumi Karsa. The reason the author chooses this company is that this company has ISO 9001 No. 2803007. Hence, the author wants to know whether the application of TQM in this company has affected improving the performance of its managers. TQM can improve managerial performance within the company to realize company goals. Focus on customers means that every product produced by the company aims to meet customer needs. This customer orientation will stimulate managers to improve their performance to produce quality products to satisfy customers. Obsession with quality is an attitude that is never satisfied with the products produced. Improving product quality can also reduce quality costs which can reduce profits. If this attitude can be implanted in managers' minds, managers' performance will increase because they want to continue to produce high-quality products. Teamwork is a reflection of the company's integrity. Good relationships among team members must be established, fostered, and maintained. Cohesiveness in carrying out company activities will improve the performance of company managers because they feel reliable and will do the best for the name of the team because if one manager makes a mistake, the other team members will also feel the consequences.

The company must carry out continuous system improvement in line with the development of information and customer needs. Regular improvements in all areas that the company routinely carries out can improve managerial performance because the improvements made can facilitate the work of managers. Improved managerial performance can ultimately improve the quality of the resulting product. Managers urgently need education and training to update their knowledge about each area they handle. Education and training make managers more skilled in their fields. Increased skills will improve their performance in the company where they work. Employee involvement and empowerment make employees have a stake in every company's decision and activity. This makes employees feel they own the company. The feelings felt by employees, in this case, managers, will improve their performance because they will do their best for the company that they consider as their own.

2 Research Method

This research was conducted at PT Bumi Karsa. The population of this study was all employees at PT Bumi Karsa, and the samples taken were middle management level and low management level employees, totaling 35 respondents. The sampling method was used to determine the research object using the purposive sampling method. In this study, the independent variable is TQM, which consists of two sub-variables: continuous system improvement, education, and training. In this study, each respondent was asked to fill out a questionnaire regarding the application of TQM, which was devoted to these two sub-variables. The data collected in this study is primary data. Primary data was obtained by using a survey method, namely through a questionnaire. Questionnaires are distributed by visiting prospective respondents one by one, seeing whether the candidates meet the requirements as prospective respondents, then asking if they are willing to fill out the questionnaire. This study uses multiple linear analysis using multiple linear regression with the help of SPSS software version 22. Then the testing stage in this research is the research instrument test consisting of validity and reliability tests, classical assumption tests, and hypothesis testing. The next test is the multicollinearity test and normality test, Adjusted R2 test, F test, and t-test. Furthermore, the statistical method was used to test the hypothesis.

$$Y = b_0 + b_1 X_1 + b_2 X_2 + e$$

Description:

- Y = Performance
- X1 = Continuous system improvement
- X2 = Education and training
- Bo, b1, b2 = Constant
- e = Error

3 Result and Discussion

Result

The managerial performance trend of PT. Bumi Karsa, for the last 3 (three) years, has shown quite a proud performance. The resulting performance is achieved due to the cooperation of each line and the implementation of TQM in the company's operations from 2007 until now. One of the standards used is ISO 9001, a set of universal quality standards, providing the same framework for quality assurance used in companies to achieve and maintain the quality of the products or services produced.

The managerial performance trend of PT. Bumi Karsa can be seen in table 1.

Table 1. Trend of Managerial Performance Indicators of PT. Earth of Karsa

Periode	Revenue	Earning	Asset	Equity	Curren Tratio	ROE	ROI	EVA
Year 2007	102.220	504	6.855	23.893	1,52	2,11%	1,36%	1.708
Year 2008	282.932	5.973	22.208	29.866	2,97	20,00%	14,12%	4.586
Year 2009	372.125	14.337	31.655	44.204	3,54	32,44%	19,46%	10.754

Based on the chart as shown in Figure 1, it can be seen that the application of TQM can affect managerial performance. This performance can be seen from the continuous increase in revenue, earnings, assets, equity,

current ratio, ROE, ROI, and EVA. These results illustrate that quality improvement, continuous system, education, training, and other TQM characteristics can provide great benefits in achieving company goals.

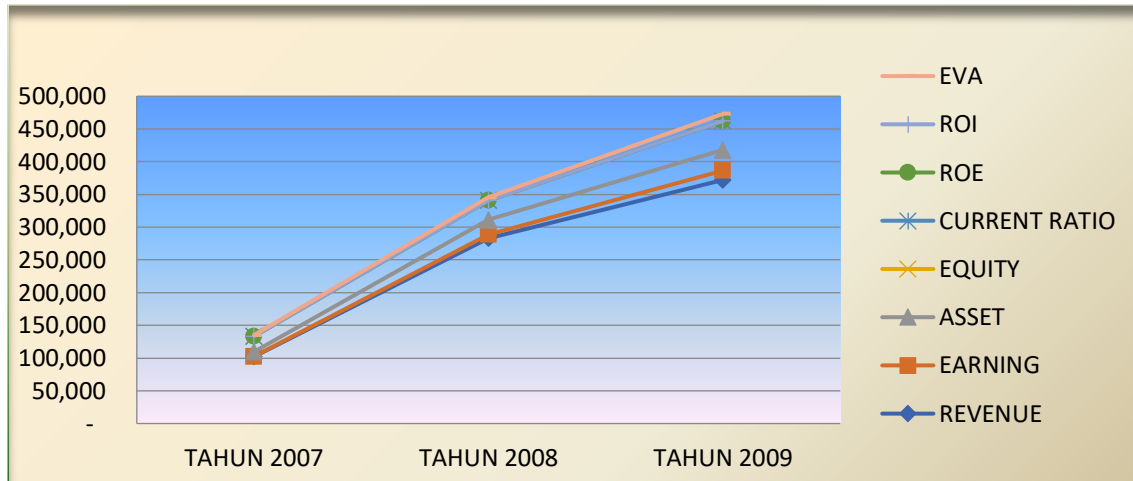


Figure 1. Chart Trend Managerial Performance

In this study, we distributed 50 questionnaires to all respondents, which included 15 questionnaires for Managers, 15 questionnaires for the Head of Section, 5 questionnaires for Supervisors, and 15 questionnaires for staff. This can be seen in table 2.

Tabel 2. Demografi Responden

Number of selected Respondents	Questionnaire distributed	Return Questionnaire	Return Questionnaire (%)	Questionnaire Fall	Valid Questionnaire
Manager	15	12	80,00%	3	12
Head of Division	15	10	66.67%	5	10
Supervisor	5	3	60,00%	2	3
Staff	15	10	66.67%	5	10

The first stage of testing the data in this study is to test the validity and reliability. Our validity test is carried out to measure the validity or validity of a questionnaire that we have collected. According to Ghozali, (2005), The validity test in a study will show the extent to which a measuring instrument used can measure what it wants to measure. The questionnaire instrument for continuous system improvement, education and training, and managerial performance was declared valid only in one validity test. Furthermore, we also conducted a reliability test employing one-shot or measurement only once. The resulting reliability test result = 0.614, meaning that the tested variable is said to be reliable because it gives Cronbach's alpha value > 0.60. All variables in this study were declared reliable because Cronbach's alpha passed 0.60.

The second stage is to perform the Classical Assumption test, consisting of a multicollinearity test and a normality test. The results of the multicollinearity test in this study can be shown that the variables of continuous system improvement (X1) and education and training (X2) have tolerance = 0.999 and VIF = 1.001, meaning that there is no single independent variable that has a VIF value of more than 10. None has a VIF value of more than 10. the tolerance value is less than 0.1. So it can be concluded that there is no multicollinearity between independent variables in the regression model of this study. Testing the normality of the data can be seen with a graph, to ascertain whether the data along the diagonal line is normally distributed.

The third stage tests the hypothesis by looking at the adjusted R-Square value, F-Test Results (Simultaneous

Test), and t-Test (Partial Test). The adjusted R² value in the attached table R Square = 60.8. This is continuous system improvement (X1), education and training (X2), affects managerial performance, and 39.2 is influenced by other variables in the ten characteristics of TQM. The test results – Fount in the attached table can be seen that Fable is 24,819 > 4, with a significance level of 5%. This means that Ha is accepted, meaning that the continuous improvement of the system (X1), education, and training (X2), has a simultaneous effect on managerial performance (Y). (Appendix 4) The t-test results were obtained for the continuous improvement variable (X1) of = 6.656 with a significance level of 0.000 under 0.05. This means that the variable (X1) partially influences managerial performance. For education and training variables (X2) of = 2.132 with a significance level of 0.041, which is below 0.05. This means that the variable (X2) has a partial influence on managerial performance

. The fourth stage is to perform Multiple Regression Analysis to determine the effect of the independent variable (X) with the dependent variable (Y). The results of multiple regression analysis can be seen in the attached Coefficients table. Based on the results of data processing in the Coefficients table, the multiple regression equation models is obtained as follows:

$$Y = -2.792 + 1.408X_1 + 0.603X_2$$

The constant of -2.792 states that if there is no TQM with its two components, then managerial performance cannot be determined with certainty. The coefficient of X1 (b1) = 1.408, indicates that continuous system improvement (X1) has a positive effect on managerial performance (Y). This means that if the system improvement variable is continuously increased, managerial performance will increase by 1.408. The coefficient of X2 (b2) = 0.603 indicates that education and training (X2) have a positive effect on managerial performance. This means that if the education and training variables are increased, managerial performance will increase by 0.603.

Discussion

From the various tests that have been carried out, the research results state that TQM, with a proxy for continuous system improvement (X1), and education and training (X2), has an effect either simultaneously or partially on managerial performance (Y) at PT Bumi Karsa. The results of this study contradict the research conducted (Lubis, 2005), which states that TQM does not affect the increase in management performance. The previous researchers all stated that TQM affected managerial performance. Their research results are following the existing theory, that TQM has a positive relationship to managerial performance. The results of this study support the four previous researchers, namely, Zulaikha, Yan Saputra Saragih, Henny Zurika Lubis, and I Made Narsa and Rani Dwi Yuniawati.

The most significant possibility for this situation to occur is that TQM is following the company's culture in assessing managerial performance. In this study, it can be seen that the performance appraisal culture within the company has begun to spread. People in the company are familiar with performance appraisals, so people in the company are open to assessments made on themselves and on the divisions where they are involved in their work to be able to implement TQM optimally. People who can be open with assessments are people who are confident in their abilities and also confident in their work based on the workload assigned to employees in their respective companies. TQM can be a measuring tool for managerial performance if the culture in one place, in this case, the company, has been changed to a more open company dealing with performance appraisals. If this culture is applied evenly, then TQM will work.

Forms of Managerial Performance

Implementation of TQM at PT Bumi Karsa, regarding continuous system improvement and education and training, can be described in table 3.

Table 3. Implementation TQM at PT Bumi Karsa

Dependent Variable	Action
Continuous System Improvement	<ol style="list-style-type: none"> 1. Establish process boundaries 2. Perform testing or verification 3. Fixed any identified issues. 4. Test best practices to determine if they are the best. 5. Eliminate errors in the process. 6. Streamline process 7. Reducing the sources of variation 8. Improve the design. 9. Experiment.
Education and Training	<ol style="list-style-type: none"> 1. Forming quality planning 2. Establish quality control 3. Shaping Quality Improvements 4. Performing thorough analysis

The performance measures that are used as a reference in implementing TQM at PT Bumi Karsa can be seen in table 4.

Table 4. Performance measures in the application of TQM at PT Bumi Karsa

No	Job Criteria	Unit of Measurement
1.	Market Share	Unit Rupiah
2.	Profitability	Margin Contribusi Return on total capital or equity
3.	Growth of Competitors	Market Share of each segment
4.	Raw materials (materials)	Proportional to total costs Price/Volume Transportation
5.	Costs Direct/Indirect labor costs	Proportion to total costs Number of employees in each function Share Fixed/variable salary Productive working hours per employee Employee profit
4.	Capital Cost Turnover	Turnover rate: Total asset Fixed asset Inventory
5.	Product characteristics	Depreciation policy
6.	Output performance	Per utility function
7.	Service	Response time Average time of each service Routine order processing Production planning
8.	Image (image)	Customer awareness Marketing intensity and costs Customer reactions to marketing campaigns, etc.

Based on table 4, it can be concluded that the effect of TQM on managerial performance can be proven through performance indicators that will be achieved to form a more professional company in global competition. There are 3 major groups in the characteristics of TQM, continuous system improvement and education and training to improve performance in the company PT. Earth Karsa, namely:

Changes in Corporate Culture

set new realistic performance targets. This process plays a significant role in convincing everyone in the organization of the credibility of the targets to be achieved in the company.

Performance Improvement

It is knowing the existence of specific gaps in performance and selecting the process to be improved. This is useful for redesigning a system to meet or exceed customer expectations.

Enhancement of human resource capabilities

Providing basic education and training, employees begin to realize that there is a gap between what they do and what employees in companies do that are the best in the type of business competitors. Education and training will direct employees to be involved in improving their abilities and skills in dealing with competitors in the era of globalization.

4 Conclusion

The results showed that continuous system improvement, and education and training, had an effect either simultaneously or partially on managerial performance. Therefore, it is suggested that the company conduct training and education more often on maintaining relationships with customers, maintaining and improving product quality standards, increasing motivation to achieve improvements in the way the company works and training on leadership (leadership). The education and training carried out are expected to increase the openness of company employees to assess their respective performance, both individually and as a division. The education and training carried out are also expected to increase the confidence of company employees to be assessed because, in general, people do not want to be assessed, in this case, their performance, because they feel they are not serious in doing their work, so they feel they do not deserve to be assessed. Education and training are expected to increase self-confidence in employees so that they can openly accept an assessment of the work professionally assigned to them. In this study, the relationship between TQM and managerial performance is positive (according to the theory), therefore it is recommended for further researchers to conduct research with the same variables as this study to see the consistency of the research results with the results of previous studies. It is also recommended for further researchers to examine the two other TQM characteristics that were not examined in this study, namely: customer focus, obsession with quality, scientific approach, long-term commitment, teamwork, controlled freedom, unity of purpose, and employee empowerment involvement. And its effect on managerial performance.

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