THE INFLUENCE OF TOTAL QUALITY MANAGEMENT (TQM) APPLICATION ON OPERATIONAL PERFORMANCE ON UD. "MATAHARI" TEMPE CRACKERS. RESTU JAYA

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Abstract

For a company the best way to maintain optimal company conditions is to implement Total Quality Management (TQM). This study aims to determine the effect of implementing Total Quality Management (TQM) which is then realized in 4 basic pillars, namely customer focus, employee empowerment, continuous quality improvement, and fact-based management on operational performance at UD. Restu Jaya. The research sample used was 44 employees. Methods of data analysis using multiple linear regression, classical assumptions, and hypothesis testing. Based on the results of data analysis, the implementation of Total Quality Management (TQM) is proven to have a simultaneous effect on operational performance variables. However, there are several variables that have no partial effect on the operational performance variable, while those variables are employee empowerment and continuous quality improvement. While the variables focused on customers and management based on facts have a significant partial effect on operational performance variables.
Keywords: Operational Performance, Total Quality Management.

1. INTRODUCTION

Current technological advances make business actors and MSMEs have to adapt to an environment that changes rapidly at any time . Utilization of owned resources must be able to improve the performance of a company in producing products that have high quality and selling value in order to be able to compete with others (Huriyah, 2016) . Competition is not only seen in terms of productivity but can be seen in the low level of product costs obtained from the company alone, but rather in the quality of the product according to what prospective customers want (Ridha, 2020) . In addition to high competition in maintaining a business, uncertain conditions are also faced by business owners, especially Small and Medium Enterprises engaged in the food processing industry.

Quality improvement is important in maintaining a company where aspects related to quality improvement are materials, labor, effective promotions and services that can fulfill customer desires, so as to attract consumers which has an impact on increasing consumer satisfaction with quality (Huriyah, 2016) . Quality control is needed by the company in improving operational performance. Operational performance shows the company's internal operating conditions in terms of cost savings, reduction of waste, product quality improvement, new product development, delivery performance improvement, and productivity increase (Ibrahim, 2015) . Operational performance can measure market share through new product launches, product quality, customer satisfaction, and marketing effectiveness (Tumbel, 2016) .

Achieving aspects related to quality improvement requires a good management system. Companies can use the Total Quality Management or TQM system, which is an approach to operations management in which to improve the quality of products and services through ongoing improvements as a response to continuous improvement (Haryanto, 2020) . In addition, TQM is also often used in quality improvement which is a tool used by many business actors to improve the quality of goods and services which are closely related to operational performance and can focus on the production process (Labdhagati, 2017) .

The implementation of Total Quality Management has proven to have a positive effect on operational performance (Islamy, 2017) . However, only the customer focus variable is proven to have no partial effect on operational performance. As for the employee empowerment variable, continuous quality improvement and fact-based management in *total quality management* have proven to have a significant positive effect on operating performance. Therefore it is necessary to conduct research on the effect of implementing *Total Quality Management* to examine its impact on operational performance.

2. LITERATURE REVIEW

Operational management is a production implementation process that is needed by management and is useful for implementing decisions in an effort to manage the resources owned by the company. Operational management is also a comprehensive and optimal form of management starting from resource management until the goods are ready to be marketed. Operational management management is inseparable from operational production management which is a process of achieving organizational goals through a series of controls and the use of owned resources to convert inputs into outputs of goods and services (Rusdiana, 2014) . The importance of operational management is very much starting from operations management which must exist in all types of organizations, being able to know the ins and outs of how to produce goods and services, being able to know exactly what should be done when becoming an operational manager, and is the most important part in managing a company (Adam , 2018) . The scope of operational management includes designing or preparing and operating production systems (Effendi, et. al 2019) .

TQM is a way of managing the entire organization to achieve excellence (Haryanto, 2020) . TQM can also be defined as a benchmark that represents an organization that is continuously improving. Emphasizing management commitment is one of the TQM factors where to get directions from companies that continuously want to achieve excellence in all aspects of products and

UD. Restu Jaya is located in Puger Kulon Village, Puger District, Jember Regency which has been around for a long time in an environmental area that also produces many cracker entrepreneurs with their own characteristics. Over time, UD. Restu Jaya continues to strive to improve its existence by wanting to improve in terms of presenting quality processed cracker products for consumers and being able to compete with other trading units. The quality of tempe products produced by UD. Restu Jaya is the same as its competitors' products so that this trading unit wants improvements in product quality which can add more value to the products it produces.

services that are overall important for every customer (Soetjitro, 2010) . The main benefits of implementing TQM are for service improvement, cost reduction, and customer focus (Saril, 2019) . Utilization of TQM is also useful for customers who have no problems with products or services, care for customers is either better or customers for more attention, and customer satisfaction is guaranteed (Nilhuda, 2019) . In addition, the benefits of TQM for organizations include changes in product quality, more motivated staff, increased productivity, reduced costs, reduced product defects, and problems can be resolved quickly.

There are several general principle characteristics of Total Quality Management according to Hensler and Brunel, there are four main basic pillars in TQM, namely customer focus, employee empowerment, continuous quality improvement, and management based on facts. This focus on customers is where all management efforts in TQM are directed to the main goal, namely creating customer satisfaction where customers are the top priority because the sustainability of the organization depends on customers. This employee empowerment is the most valuable organizational resource where everyone in the organization must be well looked after and given the opportunity to be involved and participate in decision making. Continuous quality improvement is carried out on an ongoing basis, starting from planning to correcting the results that have been obtained. Management based on facts is every decision made based on data not on feelings where the use of this data must be

utilized for long-term quality improvement and is carried out in stages and continuously.
Operational performance is the implementation of measurement activities of the company's performance against efficient and responsible standards. Operational performance is also something that is produced by the company within a certain period by referring to the standards that have been determined in the company's operational activities (Aulia, et. al 2016) . The application of TQM also affects operational performance where when the implementation of TQM can be carried out properly , the implementation of operational performance in the organization should also run well (Islamy, 2017) .
The research method using Total Quality Management in companies requires a method that is to maximize operational performance. This method uses 4 basic variables of TQM, namely Customer Focus, Employee Empowerment, Continuous Quality Improvement, and Fact-Based Management. Based on the literature review described above, the framework is as follows:

According to Sugiyono (2019) a hypothesis is a temporary schedule for the formulation of a research problem, where the research formulation has been stated in the form of a question sentence. Based on the formulation of the problem, literature review, and framework that was carried out previously, the following hypotheses can be formulated:
H1 : Customer Focus has a significant effect on Operational Performance

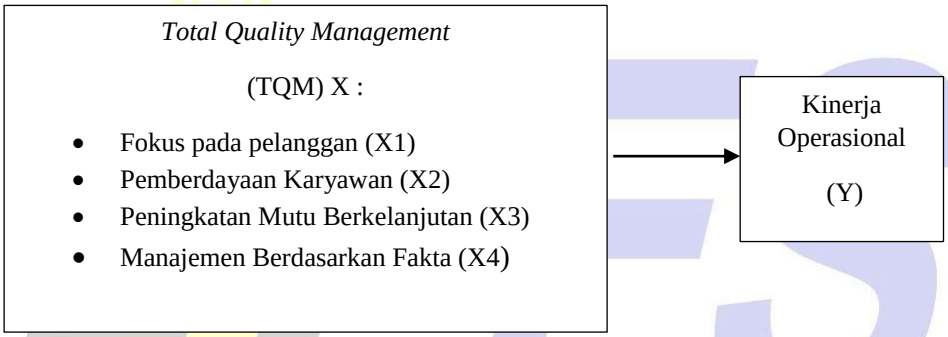

Figure 1
Framework of Mind

H2: Employee Empowerment has a significant impact on the company's operational performance
H3 : Continuous quality improvement has a significant effect on operational performance.
H4 : Management based on facts has a significant effect on operational performance.
H5 : Focus on customers, employee empowerment, continuous quality improvement, and fact-based management together have a significant effect on operational performance.

3. METHODS

The type of research used is quantitative research as according to Sugiyono (2016), a quantitative research method where as a method used to examine certain populations or samples, data collection uses research instruments, data analysis, with the aim of testing established hypotheses.
One of the elements that helps communication between research is the operational definition which is an indication of how a variable is measured by reading the operational definition in a study, a researcher will know the measurement of a variable, so that researchers can find out whether the measurement is good or bad Sugiyono, (2015). This research is divided into two variables, namely Total Quality Management (TQM) as variable X then Focus on Customers variable X1, Employee Empowerment X2, Continuous Quality Improvement X3 , Management Based on

Facts X4 and Operational Performance as variable Y. the table of variable operational definition is as follows:

Table 1
Variable Operational Definition

Variable Operational Definitions	Variable	Indicator
Total Quality Management (X)	Focus on Customers	1. Focus on the customer after purchasing the product. 2. Services provided by operating performance. 3. Price and product quality. 4. Satisfaction with product variations. (Citraluki et al., 2016)
	Employee Empowerment	1. Situation characteristics. 2. Job description. 3. Job specifications. 4. Job performance standards. 5. Performance appraisal objectives. 6. Attitudes of employees and managers towards evaluation. 7. employee engagement. (Ilmansyah, 2015)
	Continuous Quality Improvement	1. Product quality development. 2. Planning to prevent errors in production. 3. *Quality* improvement *control* . 4. Quality improvement. 5. Continuous improvement. (Huriyah, 2016)
	Fact Based Management	1. The appropriateness of decisions based on data. 2. Manager's decision priorities. 3. Variation in employee performance (Dyaninggar, 2013)
Operational Performance (Y)		1. Work effectiveness and efficiency. 2. Minimizing Losses. 3. Fulfillment of work standards in accordance with the SOP. 4. Placement of interests as needed. (Peba, et. al., 2021)

The method used in data collection is a questionnaire. The analytical method used is multiple linear regression, classical assumptions which include normality, multicollinearity, and heteroscedasticity tests, scale ranges, hypothesis testing, and coefficient of determination tests.

4. RESULTS AND DISCUSSION

UD. Restu Jaya himself located in the village Puger Kulon, District Puger , Regency Jember . UD. Restu Jaya started the business by producing crackers with tempe ingredients which was established in 1978 . Marketing area company this at first comb the area

around factory and in the area around muddy south. Then at this time it is able to reach areas outside the island of Java. The potential for the tempe cracker business that is developing around Puger Kulon Village has made it a leading industry in the Puger District so that this potential has made UD. Restu Jaya can make it easier to obtain supplies of raw materials with better quality and quantity. This means that with competitiveness, each business unit will produce the best product.

Respondents in this research were UD employees. Restu Jaya. Respondents obtained from the results of the study were 44 respondents with the most being female, namely 27, while 17 respondents were male. The average age of the majority is 40 to 16 years old with the remainder aged less than 40 years and more than 55 years. Then with the most recent education, namely high school as many as 22 and others with elementary, junior high, and bachelor / diploma education. Then as for the length of work the majority is 5 to 6 years and the rest is less than 4 years.

Validity is a research instrument that is measured by comparing the number of r counts with the number of r tables. If the calculation results show r count > r table, then the question is declared valid. Calculation of the validity test of each variable, can be seen as follows:

Table 2
Validity Test

Variable	Statement	*r* count	*r* table	Information
Focus On Customers (X1)	X1.1	0.734	0.291	Valid
	X1.2	0.773	0.291	Valid
	X1.3	0.784	0.291	Valid
	X1.4	0.561	0.291	Valid
Employee Empowerment (X2)	X2.1	0.596	0.291	Valid
	X2.2	0.649	0.291	Valid
	X2.3	0.710	0.291	Valid
	X2.4	0.656	0.291	Valid
	X2.5	0.702	0.291	Valid
	X2.6	0.545	0.291	Valid
	X2.7	0.682	0.291	Valid
Continuous Quality Improvement (X3)	X3.1	0.805	0.291	Valid
	X3.2	0.853	0.291	Valid
	X3.3	0.697	0.291	Valid
	X3.4	0.632	0.291	Valid
	X3.5	0.558	0.291	Valid
Management Based on Facts (X4)	X4.1	0.857	0.291	Valid
	X4.2	0.734	0.291	Valid
	X4.3	0.785	0.291	Valid
Operational Performance	Y1	0.714	0.291	Valid
	Y2	0.814	0.291	Valid
	Y3	0.770	0.291	Valid
	Y4	0.659	0.291	Valid

Based on the results of the validity test presented in the table above, using 44 respondents with a significance level of 0.05, and r table 0.291, it can be concluded that all statements on Total Quality Management (TQM) and Operational Performance are declared valid.

Questionnaire reliability test in this study used the Cronbach Alpha formula. It will be declared reliable if the Cronbach Alpha value is found > 0.6. Can be seen as follows:

Table 3
Reliability Test

Variable	Cronbach's Alpha	Information
Customer Focus	0.676	Reliable
Employee Empowerment	0.769	Reliable
Continuous Quality Improvement	0.749	Reliable
Fact Based Management	0.689	Reliable
Operational Performance	0.707	Reliable

Based on the test results presented in the table above, it shows that each variable has a Cronbach Alpha value > 0.6. So it is stated that all variables in this study are reliable.

Data analysis uses the classic assumption test. Normality test in this study. using the Kolmogorov Smirnov Test of normality in the SPSS application. From this normality test, the regression model is said to be normally distributed if the alpha value is > 0.05. The normality test results can be seen as follows:

Table 4
Normality Test

Testing	Probability (P *Value*)	Information
Kolmogorov Smirnov	0.200	Normal Distribution

Based on the normality test using *the Kolmogorov-Smirnov* in the table above, it can be seen that the normality test calculation result is 0.20 where the result is greater than 0.05. So it can be stated that the data is normally distributed and deserves to be tested further.

Multicollinearity test is a test that aims to find out whether the regression model found a correlation between independent variables. It can be stated that there is no multicollinearity problem, that is, if the *Variance Inflation Factor* (VIF) value is < 10 and the *tolerance limit* is > 0.1. The results of the multicollinearity test can be seen below:

Table 5
Multicollinearity Test

Variable	*tolerance*	VIF
Customer Focus	0.426	2,348
Employee Empowerment	0.386	2,590
Continuous Quality Improvement	0.411	2,433
Fact Based Management	0.544	1,838

Based on this regarding the multicollinearity test it can be seen if each variable has a *tolerance value* greater than 0.1 and a VIF value less than 10. It can be stated that there are no symptoms of multicollinearity in this research data, so that further tests can be carried out.

The heteroscedasticity test is a test to find out whether there are differences in variance from one residual observation to another. To indicate the existence of a heteroscedasticity, a significant coefficient is used. If the significance coefficient value is ≥ 0.05, it is concluded that there is no heteroscedasticity.

Table 6
Heteroscedasticity Test

Variable	Probability (Sig)
Customer Focus	0.775
Employee Empowerment	0.165
Continuous Quality Improvement	0.549
Fact Based Management	0.144

Based on the results of the calculations presented in the table above, it is known that the significance value for each variable is greater than 0.05, which can be concluded that there are no symptoms of heteroscedasticity in each variable.

Data analysis techniques use a range of scales where the results of the analysis of variable scale ranges Focus on customers (X1), Employee Empowerment (X2), Continuous Quality Improvement (X3), Management Based on Facts (X4) , and Operational Performance (Y) obtained from respondents' answers through a questionnaire. As for the results of the variable scale range of focus on customers (X1) it is known that the indicators with the highest scores are obtained by the fourth and fifth indicators which state that the company conducts research on customer needs and customer statements provide input regarding new product designs with a score of 199 each. Then the results the variable scale range of employee empowerment (X2) is known that the indicator that gets the highest score is obtained by the third indicator, namely the company provides specifications for employees with a score of 200 which is in the very good category. Then the variable of continuous quality improvement (X3) is known that the indicator that gets the highest score is the third indicator which states the company is making efforts to improve product quality with a score of 200. The management variable based on facts (X4) is known to be the indicator with the highest score, namely 195 and is obtained by two indicators, namely on the second indicator states that the company uses structured information management in making a decision and the third indicator states that in making decisions the company always follows up based on the results of the analysis that has been carried out. Finally, the operational performance variable (Y) can be seen that the indicator with the highest score is obtained by the fourth indicator which states that the company is able to manage the goods that have been sent according to the company's operational flow with a score of 200.

Multiple linear regression analysis is an analysis to determine the relationship and how much influence the independent (independent) variables have on the dependent (dependent) variable. The following are the results of multiple linear regression analysis as follows:

Table 7
Multiple linear regression test

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	std. Error	Betas		
1	(Constant)	-2,815	2,733		-1,030	,309
	Customer Focus	,487	,199	,368	2,446	,019
	Employee Empowerment	.036	,126	.045	,282	,779
	Continuous Quality Improvement	,022	, 156	,022	,140	,889
	Fact Based Management	,747	, 181	,550	4,132	,000

Based on multiple linear regression model above , got informed as following :

- A constant value of -2.815 with a sig value of 0.309 indicates a negative but not significant constant value, which means that Operational Performance will have a value of 0 if the regression coefficients of the independent variables (Focus on customers, Employee Empowerment, Continuous quality improvement, and Management based on facts) are worth 0.
- The regression coefficient on the customer focus variable (X1) is 0.487 and is positive, meaning that the increasing focus of the company on customer desires will also increase the dependent variable, namely the operational performance variable.
- The regression coefficient on the Employee Empowerment variable (X2) is 0.036 and is positive, meaning that as employee empowerment increases, the dependent variable will also increase, namely operational performance variables.
- The regression coefficient on the Continuous Quality Improvement variable (X3) is 0.022 and is positive, meaning that as continuous quality improvement increases, the dependent variable will also increase, namely operational performance variables.
- The regression coefficient on the Fact-Based Management variable (X4) is 0.747 and is positive, meaning that the increasing management based on facts will also increase the dependent variable, namely the operational performance variable.

Hypothesis test calculation done with SPSS assistance , as for results from hypothesis testing divided become two i.e. simultaneous test with using f and partial test with using the t test. Following is results from testing hypothesis as follows:

The t test used 44 samples, 4 independent variables and 5% significance level, so the t table was (α/2; nk-1) = (0.025; 39) = 2.023. The results of the t test are as follows:

Table 8
T test

Variable	t Count	Sig.
Focus on customers	2,446	0.019
Employee Empowerment	0.282	0.779
Continuous Quality Improvement	0.140	0.889
Fact Based Management	4.132	0.000

Based on t test results , which are presented in table 4. 8 on obtained information as following :

1. The customer focus variable has a significance value of 0.019, this value is less than 0.05. Meanwhile, the t count obtained a value of 2,446 > t table (2,023). Based on this, it can be said that the customer focus variable has an effect on operational performance variables. So that the first hypothesis, H1: The customer focus variable has a partially positive significant effect on the "accepted" Operational Performance variable.
2. The employee empowerment variable has a significance value of 0.779, this value is greater than 0.05. Meanwhile, for t arithmetic, a value of 0.282 > t table (2.023) is obtained. Based on this, it can be said that the employee empowerment variable has no effect on operational performance variables. So that the second hypothesis, H2: The employee empowerment variable does not have a partially positive significant effect on the Operational Performance variable "not accepted".
3. Continuous quality improvement variable has a significance value of 0.889, this value is greater than 0.05. Meanwhile, for t arithmetic, a value of 0.140 is obtained > t table (2.023). Based on this, it can be said that the variable of continuous quality improvement has no effect on operational performance variables. So that the third hypothesis, H3: The variable of continuous quality improvement has no significant positive effect partially on the operational performance variable "not accepted".
4. The management variable based on facts has a significance value of 0.000, this value is less than 0.05. Meanwhile, for t arithmetic, a value of 4,132 is obtained > t table (2,023). Based on this, it can be said that management variables based on facts have an effect on operational performance variables. So that the fourth hypothesis, H4: The management variable based on the facts has a partially positive significant effect on the "accepted" Operational Performance variable.

Test f with use sample as many as 44, variables independent 4 and level real 5% then obtained F table equal to (k; nk) = (4.40) = 2.610 . The simultaneous test results are as follows:

Table 9
Test f

Model		Sum of Squares	df	MeanSquare	F	Sig.
1	Regression	136,536	4	34,134	16.183	.000 [b]
	residual	82,260	39	2.109		
	Total	218,795	43			

Based on table 4.9 above, it is obtained information on a significance value of 0.000 <0.05 and a calculated F value of 16.183 > F table of 2.610 which means that the independent variables are focus on customers, employee empowerment, continuous quality improvement, and fact-based management influences the dependent variable in the form of operational performance .

The coefficient of determination is between zero and one. If the number of the coefficient of determination is higher. The following is the result of the coefficient of determination (R2) presented in the table below:

Table 10.
Coefficient Results Determination

Summary Model [b]				
Model	R	R Square	Adjusted R Square	std. Error of the Estimate
1	.790 [a]	.624	.585	1.45232

Based on the above data testing, the following discussion can be carried out:

1. **Focus on Customers for Operational Performance**

   The results of the study show that there is a positive influence between focus on customers (X1) and operational performance variables. This shows that if there is an increase in the customer focus variable (X1), it will have an impact on an increase in operational performance variables. In addition, the results of the hypothesis test also show that there is a partially significant effect on the customer focus variable (X1) on operational performance. The results of this study are relevant to research conducted by Citraluki *et al* ., (2016) which states that focus on customers has a positive and significant effect on operational performance. So it can be concluded that H1 is accepted.

2. **Employee Empowerment on Operational Performance**

   The results showed that employee empowerment (X2) has a simultaneous or joint effect on operational performance variables but does not have a partial positive effect between employee empowerment variables (X2) on operational performance. This indicates that there is a decrease if employee empowerment is carried out and there is no effect. significant impact on operational performance. Employee empowerment has less effect, this is because the process of focusing on improving or training employee empowerment on company development has not been implemented optimally. This will have an impact on improving operational performance. Based on the results of the simultaneous test of the Employee Empowerment variable on Operational Performance, it has a joint effect on operational performance with other variables, this is also in accordance with Reynaldo (2018) that employee empowerment has a simultaneous and significant positive effect on operational performance.

3. **Continuous Quality Improvement on Operational Performance**

   Based on the results of the analysis, it can be seen that continuous quality improvement (X3) has no partial effect on operational performance. This is because at UD. Restu Jaya continuous quality improvement has not been implemented properly. It is necessary to develop product quality. However, according to the results, it simultaneously has a significant effect along with other variables. Then the suitability of existing data in the field is needed for the future development of the company. Based on the results of simultaneous tests carried out together with other variables affecting operational performance. This is also in accordance with Wahyudi's research (2019) which states that the variable of continuous quality improvement has a positive and significant simultaneous effect on operational performance.

4. **Fact-Based Management of Operational Performance**

   The results showed that there was a positive or unidirectional influence between the Fact-Based Management variable (X4) and the operational performance variable. This shows that if there is an increase in the management variable based on facts (X4), it will have an impact on an increase in the operational performance variable. In addition, the results of the hypothesis test also show that there is a partially significant effect on the fact-based management variable (X4) on operational performance. Management based on facts is the conformity of decisions based on facts in the field. Facts are things that are real. The company will be fact oriented. This means that every decision is always based on data, not just feelings. This is also supported by research conducted by Peba et al., (2021) which found that management variables based on facts have a positive and significant effect on operational performance. It can be concluded that H4 is accepted.

5. **Focus on customers, employee empowerment, continuous quality**

improvement, and fact-based management all contribute significantly to operational performance

The results of the study indicate that there is a simultaneous positive or unidirectional influence between the variables Focus on Customers (X1), Employee Empowerment (X2), Continuous Quality Improvement (X3), and Management based on facts (X4) on Operational Performance (Y). This means that H0 is rejected and H1 is accepted so that it can be concluded that the independent variables have a significant influence on the dependent variable or it can be said that the variables Focus on Customers (X1), Employee Empowerment (X2), Continuous Quality Improvement (X3), and Fact-Based Management (X4) on the dependent variable in the form of Operational Performance (Y) has a significant influence together. This is also supported by Islamy's research, (2017) which resulted in findings that the variables Focus on Customers (X1), Employee Empowerment (X2), Continuous Quality Improvement (X3), and Management Based on facts (X4) have a significant influence on Performance variables operational.

5. CONCLUSION

Based on the results of research, testing, analysis, and discussion, it can be concluded that there is a partial significant effect on several variables, namely focus on customers and management based on facts but there are two variables that have no effect, namely employee empowerment and continuous quality improvement on operational performance. Then there is a significant influence simultaneously from the variables in the form of customer focus, employee empowerment, continuous quality improvement, and fact-based management on operational performance variables.

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