

Total Quality Management (TQM) and Managerial Performance: The Role of Innovation Performance and Budget Participation as Moderating Variables

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Submission date: 14-Dec-2023 11:37AM (UTC+0700)

Submission ID: 2258581140

File name: C-REVISI_ROUND_2_YUNITA_CHRISTY_SETIN_ANTHONIUS.docx (417.4K)

Word count: 6171

Character count: 36493



TOTAL QUALITY MANAGEMENT (TQM) AND MANAGERIAL PERFORMANCE: THE ROLE OF INNOVATION PERFORMANCE AND BUDGET PARTICIPATION AS MODERATING VARIABLES

Yunita Christy^{1*}, Se Tin², Anthonius³

^{1,2,3} Maranatha Christian University, Bandung, Indonesia

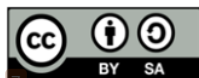
ARTICLE INFO

Article history:

Received
Revised April
Accepted May
Available online

Keywords:

Total Quality Management (TQM),
Innovation Performance,
Budget Participation,
Managerial Performance



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ABSTRACT

Tujuan riset ini adalah untuk melihat sejauhmana TQM dapat mempengaruhi kinerja manajerial dan juga untuk melihat bagaimana pengaruh TQM terhadap kinerja manajerial ketika dimoderasi oleh kinerja inovasi dan partisipasi anggaran. Dengan memahami peran inovasi dan partisipasi anggaran sebagai variabel pemoderasi, penelitian ini dapat memberikan wawasan baru tentang bagaimana TQM dapat ditingkatkan melalui inovasi dan partisipasi anggaran untuk meningkatkan kinerja manajerial. Temuan dari penelitian ini dapat memberikan panduan praktis bagi organisasi dalam mengimplementasikan TQM dengan lebih efektif dan memaksimalkan kinerja manajerial mereka. Jenis penelitian yang digunakan dalam penelitian ini adalah penelitian kuantitatif dengan menggunakan metode survey. Populasi dalam penelitian ini adalah karyawan dari beberapa perusahaan yang bergerak dalam bidang customer goods. Sampel dalam penelitian ini dipilih dengan metode purposive sampling yang merupakan non-probability sampling dimana sampel dipilih sesuai dengan kriteria sehingga dapat mendukung penelitian, kriteria pengambilan sampel ini yaitu manajer atau kepala setingkat manajer yang pernah terlibat dalam proses penyusunan anggaran.

Metode riset yang digunakan dalam artikel ini adalah menggunakan moderation regression analysis. Penemuan dalam riset ini menunjukkan bahwa TQM berpengaruh secara positif terhadap kinerja manajerial, hasil yang sama ketika kinerja inovasi menjadi variabel moderasi terhadap hubungan antara TQM dengan kinerja manajerial, sedangkan partisipasi anggaran tidak dapat memoderasi hubungan antara TQM dengan kinerja manajerial. Riset ini memberikan implikasi bahwa sampai dengan saat ini TQM masih secara efektif dapat meningkatkan kinerja manajerial dalam suatu perusahaan terutama ketika diperkuat dengan adanya kekuatan sumber daya manusia dalam mengikuti perkembangan teknologi, keinginan untuk berinovasi.

This study aims to determine the extent to which Total Quality Management (TQM) can influence managerial performance, as well as how TQM influences managerial performance when moderated by innovation performance and budgetary participation. By understanding the role of innovation and budget participation as moderating variables, this research can provide new insights into how Total Quality Management (TQM) can be enhanced through innovation and budget participation to improve managerial performance. This study aims to shed light on the mechanisms through which innovation and budget participation influence the relationship between TQM and managerial performance. In this study, quantitative research was conducted using survey methods. Employees of several companies involved in customer goods make up the population in this study. The sample in this study was chosen using the purposive sampling method, which is a non-probability sampling method in which the sample is chosen based on criteria to support the research. Managers or heads at the managerial level who have been involved in the budgeting process are the criteria for taking this sample. The moderation regression analysis was used as the research method in this study. The findings of this study indicate that TQM has a positive effect on managerial performance. The results are the same when innovation performance is used as a moderating variable in the relationship between TQM and managerial performance, whereas budgetary participation cannot moderate the relationship between TQM and managerial performance. According to the findings of this study, TQM can still effectively improve managerial performance in a company, especially when it is supported by the strength of human resources in following technological developments and the desire to innovate.

*Corresponding author.

E-mail: cuyunit@yahoo.com (Yunita Christy)

1. INTRODUCTION

As we all know, the globalization era that we have been experiencing in recent years has had a significant effect on all economic activities, including businesses of all sizes. To compete, the business world must be able to keep up with increasingly dynamic developments; therefore, organizations must be able to improve their performance and adaptability to the existing environment. The increasingly competitive economic environment requires the use of a good management accounting system as a tool to improve company performance, including managerial performance. ⁸

Management accounting systems can be used as an organizational control mechanism and an effective tool for managers to control their activities and reduce environmental uncertainty in order to achieve organizational goals successfully. One thing the company can do is improve. Organizations, particularly business organizations, that do not make improvements in the right direction will lose ground and may have to carry out repairs at a faster and more laborious pace than competitors (Singh et al., 2018). In order to compete successfully in the future, many businesses turn to a variety of improvement initiatives, one of which is implementing Integrated Quality Management, also known as Total Quality Management (TQM). Total Quality Management (TQM) is an approach to running a business that maximizes organizational competitiveness through continuous improvement of products, services, people, processes, and the environment, according to Napitupulu and Mildawati (2019). The company's goal in producing continuous system improvements is to achieve customer satisfaction, which is characterized by fewer customer complaints, indicating improved company performance. TQM is a tool used by a company's management to involve all personnel within the company in making continuous improvements to products, services, the environment related to company products, and company management through innovative scientific methods, so that the company is expected to improve managerial performance through the involvement of all personnel (Nasrun, 2018). Manufacturing organizations that follow TQM principles will focus on enhancing individual capabilities to improve operational and product and service performance through continuous training processes (Hassan & Jaaron, 2021; Shafiq et al., 2019), therefore, TQM is believed to have a role significant in improving company performance

The budget is one of the instruments to assess the performance of managers. Based on behavioral planning theory, that the involvement of managers in the process of preparing the budget is a behavior that is believed by managers to have a positive impact in the form of increased work performance. The performance of individual members of an organization in managerial activities is also called managerial performance which can be realized in the form of budgeting. One of the organizational control instruments is the budget which is an important aspect in the management accounting perspective (Elder et al., 2015; Wong-On-Wing et al., 2010). The budget is prepared within a certain period of time as a guide in running the organization's operational activities and as a means of evaluating performance. To be able to achieve TQM success in order to improve managerial performance, financial planning is a crucial part that must be considered by the company. One form of financial planning that can support the success of TQM within a company is budget participation. Through budget participation that involves subordinates in preparing the budget, subordinates will know clearly the targets that must be achieved and what must be done to achieve these targets, so that the budget set is neither too heavy nor too lax. That way, the company's goals can be achieved and the company's performance can be optimal (Hariyanti et al., 2015; Nasrun, 2018). When a company implements TQM, it involves all employees in all aspects of the company's operations, including budgeting. Budgets are set by top managers in some organizations with little or no consultation with lower-level managers. However, in some organizations or businesses, the budget is prepared, communicated, and involves, at the very least, the employees who must carry out the activities. Organizational resources are allocated during the budgeting process, and managers may be concerned that they will not be given their fair share. The fundamental belief in understanding people is that participation has a high potential for solving problems in an organization, and participation in budgeting in an organization has the potential to improve managerial performance even further (Nasrun, 2018).

As the business world enters the era of competition, continuous improvement must also be driven by various innovations possessed by human resources in the organization/company (Nasrun, 2018). Innovative performance is a formal effort made by the company to encourage the birth of innovation through a combination of the ability to continue to create ideas and ideas on quality and quantity, as well as how to effectively and efficiently implement these ideas (Mulyani & Wijayani, 2017). TQM implementation not only focuses on the effectiveness of primary factor management, namely supplier quality management, top management leadership for the sake of quality, process management, empowerment, and human resource training, but also requires good innovation performance from managers. The key to successful innovation is that it must be in line with consumer desires and expectations (Masnita dkk., 2019). Mulyani and Wijayani (2017) argue that the effect of TQM implementation on managerial performance is not mediated by innovation performance. Furthermore, according to Rediyono

and Ujianto (2013), innovation has a positive and significant effect on managerial performance. Good innovation within a company can have a significant impact on company performance, this happens because the company will have a good position in the market which in the end, the company can achieve competitive advantage (Antunes et al., 2017; Onainor, 2019). Several studies have been conducted by several researchers who have provided positive results between TQM and innovation performance, namely (Din & Cheema, 2013; Martinez-Costa & Martínez-Lorente, 2008; Prasetya & Rozali, 2016).

Based on the explanation above, where until now TQM is still needed in improving managerial performance in companies, TQM also requires support from other variables, namely including budgetary participation and innovation performance, so I tried to re-examine it, with a slight difference from previous research, namely this study attempt to make innovation performance a moderating variable in this study, furthermore, the researchers included budget participation as a moderating variable, so the purpose of this study is to see how far TQM can affect managerial performance; and how does TQM influence managerial performance when there are innovation performance variables and budget participation as moderating variables in the relationship between TQM and managerial performance.

2. METHODS

In this study, quantitative research was conducted using survey methods. The effect of the independent variables, namely Total Quality Management, Budget participation and Innovation performance to the dependent variable, namely managerial performance, is investigated in this study. Employees of several companies involved in customer goods make up the population in this study. The sample in this study was chosen using the purposive sampling method, which is a non-probability sampling method in which the sample is chosen based on criteria to support the research (Ghozali, 2018). Managers or heads at the managerial level who have been involved in the budgeting process are the criteria for taking this sample.

Total Quality Management (TQM) is the independent variable in this study, and it is measured using dimensions such as organizational leadership, customer satisfaction and relationship, human resource focus, and strategic planning and development (Singh et al., 2018). The second independent variable is innovation performance, which is assessed through dimensions such as creativity, passion, expertise, thinking style, and psychographics (Klein & Bhagat, 2016). Budget participation is the third independent variable, and it is measured using the dimensions of participation, contribution, involvement, request for opinion, proposal to superiors, discussion, and determination (Nasrun, 2018). In this study, the dependent variable is managerial performance, which is measured using the dimensions proposed by Mahoney et al. in (Hidayat, 2015), namely planning, investigation, coordination, evaluation, supervision, staffing, negotiation, and representation.

This study used a questionnaire survey technique to collect data, which was distributed directly to several respondents at 30 customer goods companies in Bandung. The questionnaire was distributed to respondents via a Google Form link.

Analysis technique

A validity test determines whether or not a questionnaire is valid. Questionnaires are valid if the questions in the questionnaire reveal something that the questionnaire will measure. The validity test used is Corrected Item-Total with r tables, degree of freedom (df) = $n-2$, n being the number of respondents, and $\alpha = 0.05$. If r count is greater than r table and the value is positive, the question is valid (Ghozali, 2018).

The reliability test is used to measure whether the variables used are truly error-free so that they provide consistent results even though the test is carried out many times. Measurements can be made using the Cronbach Alpha statistical test, a variable can be called reliable if it gives a Cronbach Alpha value > 0.70 (Ghozali, 2018)

Classic assumption test

Normality test

The normality test determines whether the independent or dependent variable, or both, is normally or abnormally distributed. The test can be performed using the non-parametric Kolmogorov-Smirnov statistical test (1-sample K-S); if the Kolmogorov-Smirnov results produce a significant value greater than 0.05, the residual data is normally distributed (Ghozali, 2018).

Multicollinearity test

The multicollinearity test, according to Ghozali (2018), was used to determine whether the regression model discovered a correlation between independent variables or independent variables. The Variance Inflation Factor (VIF) technique and the tolerance value can be used to determine the presence or absence of multicollinearity symptoms, with the condition that if $VIF < 10$, there is no multicollinearity problem, and if the tolerance value > 0.1 , there is no multicollinearity problem.

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Heteroscedasticity test

According to Ghozali (2018), the heteroscedasticity test is used to determine whether there is an inequality of variance between the residuals of one observation and the residuals of another observation in the regression model. The presence or absence of a certain pattern in the scatterplot graph indicates the presence or absence of heteroscedasticity, with the condition that if there is a certain pattern, such as the existing dots form a narrow, it indicates that heteroscedasticity occurs, and if there is no clear pattern and the points spread above and below the number 0 on the axis Y, there is no heteroscedasticity.

Hypothesis testing

Moderating Regression Analysis (MRA)

The hypothesis testing method used in this study was moderating regression analysis (MRA). The moderating variable is an independent variable that strengthens or weakens the relationship between the other independent variables and the dependent variable (Ghozali, 2018)

$$Y = a + B_1X_1 + B_2X_2 + B_3X_3 + e$$

Where:

Y: Managerial performance

X1: Budget participation

X2: Clarity of budget goals

X3: Organizational commitment

a: Constant

B1, 2, 3: Regression coefficient

e: Standard error

Coefficient of determination

The coefficient of determination is used to see the relationship between two or more independent variables on the dependent variable together. The range of R2 values is between 0 to 1, if it is close to 1 it means the relationship is getting stronger and if it is close to 0 it means the relationship is getting weaker (Ghozali, 2018).

3. RESULTS

Descriptive statistics

The following respondent data was obtained as a result of statistical processing: The age sample with category 1 (age 30-35) included 12 people, or 30% of the total. The age sample with category 2 (ages 36-40) included 18 people, or 45% of the total. Category 3 age samples (ages 41-45) included 10 people, or 25% of the total.

Table 1. Respondent Age

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|------------|-----------|---------|---------------|--------------------|
| Valid 1.00 | 12 | 30.0 | 30.0 | 30.0 |
| 2.00 | 18 | 45.0 | 45.0 | 75.0 |
| 3.00 | 10 | 25.0 | 25.0 | 100.0 |
| Total | 40 | 100.0 | 100.0 | |

Source: SPSS data processing

Table 2. Sex

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|------------|-----------|---------|---------------|--------------------|
| Valid 1.00 | 20 | 50.0 | 50.0 | 50.0 |
| 2.00 | 20 | 50.0 | 50.0 | 100.0 |
| Total | 40 | 100.0 | 100.0 | |

Source: SPSS data processing

Table 3. Latest education background

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------|---------|---------------|--------------------|
| Valid | 2.00 | 10 | 25.0 | 25.0 |
| | 3.00 | 28 | 70.0 | 95.0 |
| | 4.00 | 2 | 5.0 | 100.0 |
| Total | 40 | 100.0 | 100.0 | |

Source: SPSS data processing

The sample size for sex with category 1 (male) was 20 people, or 50%. The sex sample with category 2 (female) included 20 people, or 50% of the total. The most recent education sample with category 1 (High School) consisted of 0 people, or 0%. The most recent education sample with category 2 (Diploma 3/Associates) included 10 people, or 25% of the total. The most recent education sample with category 3 (Bachelor's Degree) included 28 people, or 70% of the total. The most recent education sample with category 4 (Master's Degree) included two people, or 5% of the total.

Validity Test

The validity test in this study employs the Corrected Item - Total method, with the condition that the variable is declared valid if r count is greater than r table and has a positive value. Based on the data, $df = n - 2$, $n =$ number of samples, and an alpha value of 0.05, the value of $df = 40 - 2 = 38$. The value of r table is 0.312 based on these data.

Table 4. TQM Final Validity Test

| | Corrected Item-Total Correlation |
|--------|----------------------------------|
| 18 | |
| TQM_1 | .469 |
| TQM_2 | .448 |
| TQM_3 | .536 |
| TQM_4 | .336 |
| TQM_5 | .494 |
| TQM_6 | .518 |
| TQM_7 | .690 |
| TQM_8 | .507 |
| TQM_9 | .506 |
| TQM_13 | .649 |
| TQM_14 | .710 |
| TQM_15 | .444 |
| TQM_16 | .484 |
| TQM_17 | .670 |
| TQM_18 | .693 |
| TQM_19 | .680 |
| TQM_20 | .422 |
| TQM_21 | .559 |
| TQM_22 | .435 |
| TQM_26 | .463 |
| TQM_27 | .522 |

Source: SPSS data processing

Table 5. Innovation Performance Final Validity Test

| | Corrected Item- Total Correlation |
|-------|--------------------------------------|
| KI_1 | .549 |
| KI_2 | .485 |
| KI_5 | .462 |
| KI_6 | .525 |
| KI_8 | .606 |
| KI_9 | .619 |
| KI_11 | .749 |
| KI_12 | .771 |
| KI_13 | .509 |
| KI_14 | .355 |
| KI_15 | .611 |
| KI_17 | .572 |
| KI_18 | .372 |
| KI_19 | .484 |
| KI_20 | .432 |
| KI_28 | .578 |
| KI_29 | .576 |

Source: SPSS data processing

Table 6. Budget Participation Final Validity Test

| | Corrected Item-Total Correlation |
|------|-------------------------------------|
| PA_1 | .606 |
| PA_2 | .622 |
| PA_3 | .786 |
| PA_4 | .758 |
| PA_5 | .781 |
| PA_6 | .615 |
| PA_7 | .442 |
| PA_8 | .512 |
| PA_9 | .577 |

Source: SPSS data processing

Table 7. Managerial Performance Final Validity Test

| | Corrected Item-Total Correlation |
|--------|-------------------------------------|
| Kman_1 | .689 |
| Kman_2 | .466 |
| Kman_4 | .525 |
| Kman_5 | .698 |
| Kman_6 | .573 |
| Kman_8 | .5 |

Source: SPSS data processing

Based on the data in tables 4 through 7, it is clear that if all data r count $>$ r table and has a positive value, then all variables can be declared valid.

Reliability Test

The Cronbach Alpha statistical test method was used in the research, and a variable is considered reliable if it has a Cronbach Alpha value > 0.70.

4.

Table 8. TQM Reliability Test

| Reliability Statistics | | |
|------------------------|-----------------------------|------------------|
| Cronbach's Alpha | Based on Standardized Items | Alpha N of Items |
| .903 | .904 | 22 |

Table 9. Budget Participation Reliability Test

| Reliability Statistics | | |
|------------------------|-----------------------------|------------------|
| Cronbach's Alpha | Based on Standardized Items | Alpha N of Items |
| .880 | .884 | 9 |

Table 10. Innovation Performance Reliability Test

| Reliability Statistics | | |
|------------------------|-----------------------------|------------------|
| Cronbach's Alpha | Based on Standardized Items | Alpha N of Items |
| .892 | .894 | 17 |

Table 11. Managerial Performance Reliability Test

| Reliability Statistics | | |
|------------------------|-----------------------------|------------------|
| Cronbach's Alpha | Based on Standardized Items | Alpha N of Items |
| .821 | .820 | 6 |

Source: SPSS data processing

According to the data in the tables above, the Cronbach's Alpha value for each dimension > 0.70. The existing dimensions can then be declared Reliable.

Classic assumption test

The Kolmogorov-Smirnov non-parametric statistical test (1-sample K-S) was used in this study to test for normality. If the Kolmogorov-Smirnov test yielded a significant value greater than 0.05, the residual data were normally distributed.

Table 12. Normality test

| One-Sample Kolmogorov-Smirnov Test | | |
|------------------------------------|----------------|-------------------------------|
| N | | Unstandardized Residual 40 |
| Normal Parameters ^{a,b} | Mean | .0000000 |
| | Std. Deviation | .35673633 |
| Most Extreme Differences | Absolute | .120 |
| | Positive | .120 |
| | Negative | -.078 |
| Test Statistic | | .120 |
| Asymp. Sig. (2-tailed) | | .153 ^c |

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

Based on the data presented above, the Asymp.Sig value is 0.153. If this value is greater than 0.05, the data is said to be normally distributed.

Multicollinearity Test

The Variance Inflation Factor (VIF) technique and the tolerance value can be used to determine the presence or absence of multicollinearity symptoms, with the condition that if $VIF < 10$, there is no multicollinearity problem, and if the tolerance value > 0.1 , there is no multicollinearity problem.

Table 13. Multicollinearity Test

| Coefficients ^a | | | | | | | | |
|---------------------------|------------|-----------------------------|------------|---------------------------|-------|------|-------------------------|-------|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | | | Collinearity Statistics | |
| | | B | Std. Error | Beta | T | Sig. | Tolerance | VIF |
| 1 | (Constant) | .215 | .698 | | .308 | .760 | | |
| | TQM | .276 | .159 | .222 | 1.741 | .090 | .815 | 1.227 |
| | Total_PA | .208 | .125 | .253 | 1.671 | .103 | .578 | 1.731 |
| | KI | .485 | .169 | .418 | 2.871 | .007 | .625 | 1.599 |

Source: SPSS data processing

Based on the table above, it can be stated that all data are free of multicollinearity if the VIF values are 1.227, 1.731, and 1.599 are less than 10 ($VIF < 10$) and the Tolerance value is 0.815; 0.578; 0.625 is greater than 0.1 (Tolerance > 0.1).

Heteroscedasticity Test

The presence or absence of a certain pattern in the scatterplot graph indicates the presence or absence of heteroscedasticity, with the condition that if there is a certain pattern, such as the existing dots form a narrow, it indicates that heteroscedasticity occurs, and if there is no clear pattern and the points spread above and below the number 0 on the axis Y, there is no heteroscedasticity.

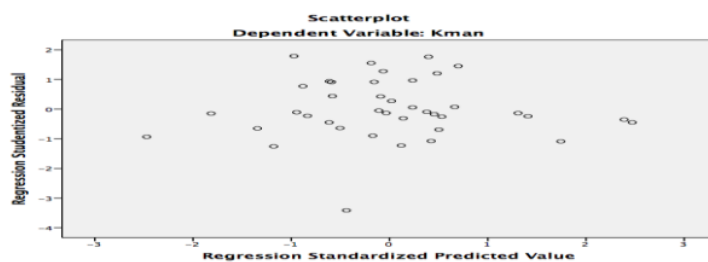


Figure 1. Heteroscedasticity Test

Based on the graph above, it can be concluded that all data are free from heteroscedasticity.

Hypothesis testing

Regression Test

Table 14. Coefficient of Determination Test

| Model Summary | | | | |
|---------------|-------------------|----------|-------------------|----------------------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .678 ^a | .459 | .414 | .39566 |

a. Predictors: (Constant), TQM

b. Dependent Variable: Kman

Table 15. Model Testing

| ANOVA ^a | | | | | | |
|--------------------|------------|----------------|----|-------------|--------|-------------------|
| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
| 1 | Regression | 2.255 | 1 | 2.255 | 10.494 | .002 ^b |
| | Residual | 8.165 | 38 | .215 | | |
| | Total | 10.419 | 39 | | | |

a. Predictors: (Constant), TQM

b. Dependent Variable: Kman

Table 16. T Test (Partial)

| Coefficients ^a | | | | | | |
|---------------------------|------------|-----------------------------|------------|--------------|-------|------|
| Model | | Unstandardized Coefficients | | Standardized | T | Sig. |
| | | B | Std. Error | Beta | | |
| | (Constant) | 1.633 | .752 | | 2.171 | .036 |
| | TQM | .580 | .179 | .465 | 3.239 | .002 |

a. Dependent Variable: Kman

Based on the data presented above, we can construct the following regression equation:

Managerial Performance = 1.633 + 0.580 TQM. R² Adj = 0.414

According to table 14, Total Quality Management (TQM) has a 41% influence on managerial performance, while the remaining 59% is influenced by factors other than TQM. Furthermore, we can see from table 4.16 that the Sig value of the Total Quality Management variable is 0.02, which means $0.02 < 0.05$, indicating that the model test between the independent and dependent variables is good, and table 16 shows the sig result is $0.02 < 0.05$. (H_1 is accepted). This means that Total Quality Management has a moderately positive effect on Managerial Performance.

Moderation Test**Innovation Performance Moderation Test****Table 17. Coefficient of Determination Test**

| Model Summary | | | | |
|---------------|-------------------|----------|-------------------|----------------------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .676 ^a | .457 | .428 | .39092 |

a. Predictors: (Constant), Z1, TQM, KI

Table 18. Model Testing

| ANOVA ^a | | | | | | |
|--------------------|------------|----------------|----|-------------|--------|-------------------|
| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
| 1 | Regression | 4.784 | 3 | 1.595 | 10.186 | .000 ^b |
| | Residual | 5.636 | 36 | .157 | | |
| | Total | 10.419 | 39 | | | |

a. Dependent Variable: Kman

b. Predictors: (Constant), Z1, TQM, KI

Table 19. Moderation Regression Analysis (MRA) Test

| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 1.472 | 4.725 | | -.311 | .757 |
| | TQM | .750 | 1.110 | .602 | .676 | .004 |
| | KI | 1.010 | 1.191 | .868 | .848 | .002 |
| | Z1 | .095 | .277 | .534 | .345 | .032 |

a. Dependent Variable: Kman

Based on the data presented above, we can construct the following regression equation: Managerial Performance = 1.742 + 0.750 TQM + 1,010 KI + 0.095 Z1. R2 Adj = 0.4283. According to table 17, Total Quality Management (TQM) and Innovation Performance influence 42% of managerial performance, while the remaining 58% is influenced by factors other than TQM and innovation performance. Furthermore, we can see from table 18 that the Sig value is 0.00, which means $0.00 < 0.05$, indicating that the model test between the independent and dependent variables is **significant**, and table 20 shows the results that innovation performance is full moderation, with the interaction effect of TQM and managerial performance being significant. Based on this, we can conclude that the moderating variable is an independent variable in the model, and thus H₂ is accepted and H₀ is rejected.

Budget Participation Moderation Test

Table 20. Determination Test

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .649 ^a | .421 | .373 | .40937 |

a. Predictors: (Constant), Z2, TQM, Total_PA

Table 21. Model Testing

| | | ANOVA ^a | | | | |
|-------|------------|--------------------|----|-------------|-------|-------------------|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 4.386 | 3 | 1.462 | 8.725 | .000 ^b |
| | Residual | 6.033 | 36 | .168 | | |
| | Total | 10.419 | 39 | | | |

a. Dependent Variable: Kman

b. Predictors: (Constant), Z2, TQM, Total_PA

Table 22. F Test

| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | -.880 | 3.307 | | -.266 | .792 |
| | TQM | .808 | .786 | .648 | 1.027 | .311 |
| | Total_PA | .954 | .879 | 1.159 | 1.086 | .285 |
| | Z2 | -.129 | .205 | -.907 | -.632 | .532 |

a. Dependent Variable: Kman

Based on the data presented above, we can construct the following regression equation:
 $R2 \text{ Adj} = 0.373 \text{ Managerial Performance} = -0.880 + 0.808 \text{ TQM} + 0.954 \text{ PA} - 0.129 \text{ Z1}$. According to table 20, Total Quality Management (TQM) and Budget Participation influence 37% of managerial performance, while the remaining 63% is influenced by factors other than TQM and budget participation. Furthermore, as shown in table 21, the Sig value is 0.00, indicating that the model test between the independent variable and the dependent variable is significant, and table 22 shows that budget participation is a moderating predictor, with no significant interaction effect on TQM and managerial performance. Based on this, it is possible to conclude that the moderating variable is only an independent variable in the model, and thus H3 is rejected and Ho is accepted.

Discussion

Total Quality Management (TQM) on Managerial Performance

The findings of the study provide evidence that Total Quality Management (TQM) has a positive impact on managerial performance in the workplace. This aligns with the research conducted by Singh et al. (2018), Anil & K.P. (2020), Cetindere et al. (2021), Napitupulu & Mildawati (2019), Zulfadli et al. (2021), and Nasrun (2018), who also found a correlation between TQM and improved managerial performance. These consistent findings highlight the effectiveness of TQM as an approach to enhance managerial capabilities. Furthermore, the implementation of TQM was well received, understood, and embraced by managers as part of the quality change management approach. This signifies that managers recognized the importance of TQM in enhancing effectiveness, flexibility, and competitiveness, which ultimately leads to meeting customer needs and gaining sustainable competitive advantages for business organizations. The elements of TQM play a crucial role in empowering managers to update their knowledge and skills in their respective fields, contributing to their overall performance improvement.

It is worth noting that the current research differs from the studies conducted by Mintje (2013) and Dewi (2013), which reported no significant effects of certain elements within TQM on managerial performance. This discrepancy may be attributed to variations in research methodologies, sample sizes, or contextual factors. However, the present study, along with the previously mentioned consistent findings, reinforces the importance of TQM in enhancing managerial performance and emphasizes its relevance in modern business environments.

In conclusion, the findings of this study provide valuable insights into the positive impact of TQM on managerial performance. The comparison with previous research supports the notion that TQM is an effective approach for managers to improve their skills and contribute to the overall success of business organizations. These findings contribute to the existing body of knowledge in the field of TQM and highlight the novelty and significance of implementing TQM principles in managerial practices.

5

Total Quality Management (TQM) on Managerial Performance with Innovation Performance as Moderating Variable.

The study's findings reveal that innovation performance plays a significant moderating role in the relationship between Total Quality Management (TQM) and managerial performance. It indicates that innovation has a substantial and positive impact on enhancing managerial performance within a company. The ability to adapt to changes and implement TQM practices effectively is facilitated by innovations. Notably, substantial innovations within the company can influence both the overall company performance and the implementation of TQM in relation to managerial performance. By being prepared for future developments, these innovations contribute to improved company performance and ultimately result in better customer service. Companies that prioritize optimal innovation tend to achieve high-quality outcomes (Hung et al., 2019).

A strong innovation performance within the company reflects the willingness of personnel to embrace change and technological advancements. This, in turn, enables the company to easily introduce innovations by leveraging existing technologies. Moreover, managers within the company recognize the crucial role of innovation in driving progress and actively compete to foster innovation. Such innovation performance serves as an enabler for effective TQM implementation, particularly evident in customer-focused strategies, strategic planning, and development, all contributing to enhanced managerial performance.

The uniqueness of this research lies in its exploration of the moderating role of innovation performance within the relationship between TQM and managerial performance. To the best of our knowledge, no previous studies have reported similar findings. However, this research aligns with the positive effects of innovation on managerial performance found in the studies conducted by Antunes et al. (2017) and Din &

Cheema (2013). Additionally, the study by Masnita et al. (2019) supports the mediating role of innovation between TQM and managerial performance.

By incorporating the variable of innovation performance as a moderator, this research adds significant value to the existing body of knowledge. It sheds light on the importance of fostering innovation within companies to optimize the implementation of TQM practices and improve managerial performance. These findings emphasize the need for organizations to embrace innovation as a key driver of success in a rapidly evolving business landscape.

5 Total Quality Management (TQM) on Managerial Performance with Budget Participation as a Moderating Variable

The study's findings indicate that budgetary participation does not significantly impact the relationship between Total Quality Management (TQM) and managerial performance. While the budgeting process holds importance and complexity due to its potential functional and dysfunctional effects on organizational members' attitudes and behavior, the level of budgetary participation does not strengthen or weaken the relationship between TQM and managerial performance. It is worth noting that employees' strong belief in the company's values and goals can influence their active participation in the budgeting process, which ultimately aims to improve managerial performance, an essential factor for the organization's continuity and operational success (Qotrunnada et al., 2018).

As this research examines budgetary participation as a moderating variable between TQM and managerial performance, there is no previous research that directly aligns with these findings. However, it is important to highlight that there are several studies that contradict the findings of this research. For instance, research conducted by Nasrun (2018), Nugroho & Sumiyanti (2017), and Zulfadli et al. (2021) suggests that budgetary participation does have an effect on managerial performance.

The novelty and uniqueness of this research lie in its investigation of the specific relationship between TQM, managerial performance, and the moderating role of budgetary participation. By exploring this previously unexplored area, this research contributes to the existing body of knowledge. It provides insights into the specific context of budgetary participation and its influence on the TQM-managerial performance relationship. While the findings may differ from some previous studies, they emphasize the importance of further research and understanding the intricate dynamics between budgetary participation, TQM, and managerial performance.

5. CONCLUSION

Based on the findings of this study, it is possible to conclude that TQM has a positive effect on managerial performance in the workplace. This demonstrates that the TQM implemented in the company was well received, understood, and implemented as part of the quality change management approach by managers. TQM performance can moderate the relationship between TQM and managerial performance; in other words, innovation plays a significant and positive role in improving managerial performance in a company. Changes in innovation have the flexibility to adapt to business activities, particularly in the implementation of TQM. Budget participation has no effect on the relationship between TQM and managerial performance. The budgeting process is an important and complex activity because the budget can have many functional and dysfunctional effects on the attitudes and behavior of members of an organization/company, but budgetary participation cannot strengthen or weaken the TQM relationship, which affects managerial performance.

This study has implications for the business world, particularly for managers, because the implementation of Total Quality Management (TQM) in the company has had and continues to have a positive effect on managerial performance. However, all factors must be considered, including production, consumers, product output, and company leadership. Good innovation performance within the company can also strengthen the role of TQM in improving managerial performance. The company will experience rapid development to meet the needs of customers due to innovations made by managers and employees.

Because the relationship between TQM and managerial performance in this study cannot be moderated by budget participation, future research should make budget participation a separate variable that can directly affect managerial performance, with commitment and organizational culture acting as moderating variables. The researchers believe that the limited number of samples in this study is due to respondents who are difficult to obtain because the scope is not limited to employees but also to managers.

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