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Total Quality Management, Reward System and Environmental Uncertainty on Managerial Performance

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Abstract

The primary objective of this study is to assess the impact of Total Quality Management, the reward system, and environmental uncertainty on managerial performance. This research had a sample of 81 participants who were selected from 81 organizations that implement Total Quality Management (TQM) and have obtained the International Organization for Standardization (ISO) certification, namely the Indonesian National Standard (SNI). To ascertain the sample size, the selected sample criteria consist of one respondent who holds the Production Manager or Marketing Manager role within each organization. The utilized data source consists of primary data directly obtained by researchers from respondents through administering a questionnaire instrument. The proposed data analysis approach examines the research instrument, including validity and reliability tests. The use of multiple linear regression analysis, t-tests, and f-tests will come after performing traditional assumption tests. The introduction of Total Quality Management (TQM) and the development of a reward system have had a noteworthy and favorable impact on managers' performance within several Manufacturing Companies situated in the Nusantara Bonded Zone. This finding substantiates the significance of allocating resources to implement effective quality management strategies and providing suitable incentives to enhance managerial performance. On the other hand, it is noteworthy that environmental uncertainty exerts a substantial adverse impact on managerial performance, underscoring the imperative for organizations to possess the capability to predict and effectively navigate this uncertainty to sustain optimal performance levels.

Keywords: Total Quality Management; Reward System; Environmental Uncertainty; Managerial Performance

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Introduction

In the present era, the manufacturing business is characterized by intense competition. Intense rivalry necessitates that every organization enhance its professionalism in managing its ongoing commercial operations. The performance of its managers significantly influences the success of a firm. According to Fauzi (2020), performance is commonly understood as the

outcome of work performance. However, it should be noted that performance encompasses a broader scope, extending beyond mere work outcomes to encompass how work processes are carried out. The contribution of performance within a corporation is integral to attaining organizational objectives, thus necessitating the need for performance measurement. According to Blocher (2019), performance measurement refers to the systematic process by which managers at various organizational levels gather information regarding the performance of assigned tasks inside the company and assess whether that performance aligns with established criteria. Assessing managerial performance serves to ascertain the extent to which the predetermined objectives of the organization have been attained. According to Dauhan (2018), optimal managerial performance can be achieved by effectively implementing a management control system, which incentivizes and inspires all employees to work towards attaining business objectives. The issue of managerial performance inside a company holds significant importance in enhancing the quality of production, particularly in the context of manufacturing enterprises.

The decline in managerial performance within the manufacturing business can be attributed to various issues, including the absence of adequate incentives for individual managers and the failure to provide perks and rewards for personnel who consistently exceed expectations. Another issue is the need for firms to emphasize external environmental factors, such as government legislation. Given the current circumstances, it is evident that an excessive number of regulations and policies burden the company's business processes. These economic and political conditions, including the rise in fuel prices and the increase in the minimum wage, directly impact the company's viability as they influence the determination of selling prices for its products. Furthermore, the intense competition with rival companies exacerbates the company's challenges, particularly in marketing its production. Due to the occurrence of various issues, it is imperative to prioritize the evaluation of managerial performance.

Total Quality Management (TQM) refers to a methodical strategy aimed at attaining ongoing enhancements in performance at the operational or process level inside an organization. This approach encompasses all functional domains and utilizes the complete spectrum of available human and capital resources (Gaspersz, 2011). To achieve success inside an organization, it is necessary to have the active participation of managers and their subordinates across different levels of management. The collaborative endeavor is paramount in efficiently carrying out tasks that align with the organization's goals. Multiple scholarly investigations (Pamungkas, 2015; Lubis, 2018; Sitawati, 2016; Murdijaningsih, 2017) have provided empirical evidence to support the assertion that adopting total quality management practices yields significant and beneficial outcomes in enhancing managerial performance.

Compensation encompasses many forms of financial remuneration in employment, such as salaries, bonuses, commissions, and perks. Additionally, it includes non-monetary aspects such as complex duties, opportunities for growth, recognition for achievements, and a suitable work environment. Hence, the act of bestowing prizes has the potential to influence performance. This is consistent with Mulyadi's (2017) argument that people are more likely to show increased motivation to complete specific tasks when they believe there is a good chance, they will receive rewards for their excellent performance. The present statement is grounded in empirical studies by Swari and Wirasedana (2017) and Wulandari et al. (2016).

These studies have demonstrated that implementing a reward system significantly impacts managers' performance.

One of the aspects that impacts the performance of a firm is the uncertainty of the environment it faces. Miliken, (2007) posits that environmental uncertainty can be defined as the perception of an individual's limited capacity to forecast the state of the environment precisely. Environmental unpredictability has an impact on managerial accounting techniques. Jauhar (2013) defines ecological uncertainty as a condition wherein an organization or its leadership needs adequate environmental information, resulting in challenges in accurately predicting forthcoming ecological changes. An inverse relationship exists between the capacity for prediction and the degree of ecological uncertainty encountered. According to Rahmiyati (2016), an inverse relationship exists between environmental uncertainty and managerial performance, whereby higher levels of ecological uncertainty are associated with lower levels of managerial performance. According to a study conducted by Semekto (2021), it has been found that management performance is influenced by environmental unpredictability.

This study is related to the research by Swari (2017), which examines the effects of reward systems, total quality management (TQM), performance measurement systems, and environmental uncertainty on managerial performance. This study's distinguishing factor lies in using independent variables, whereas Swari's research incorporates four independent variables alongside one dependent variable. This study includes three independent variables: Total Quality Management (TQM), reward system, and environmental uncertainty. This particular aspect of the research contributes to its originality and uniqueness. Robbins (2013) defines management as a work activity encompassing the coordination and supervision of others' work, aiming to achieve efficient and effective completion of tasks. The theory of goal-setting places significant emphasis on the correlation between established goals and subsequent performance outcomes. The fundamental principle posits that an individual's comprehension of the objectives set forth by the organization will impact their work conduct. According to the Goal-Setting Theory, an individual demonstrates commitment to a specific goal. According to Robbins and Judge (2013), the actions and outcomes of an individual's performance can be influenced by their dedication toward reaching their goals. The attainment of predetermined goals is the desired degree of performance an individual seeks. For individuals to effectively evaluate their performance, it is imperative that they possess requisite abilities, establish clear goals, and receive constructive feedback. The attainment of objectives significantly impacts the conduct and productivity of employees within the organizational context (Lunenburg, 2017).

Total Quality Management (TQM) is a management approach employed in business operations that places utmost importance on quality by consistently enhancing products, services, and the overall environment, primarily focusing on achieving customer happiness. According to Gaspersz (2011), ten distinct characteristics exist within the Total Quality Management framework. These characteristics include customer focus, an unwavering dedication to quality, the application of a scientific approach, a long-term commitment, the promotion of teamwork, the pursuit of continuous system improvement, the provision of education and training, the implementation of controlled freedom, the establishment of unity of purpose, and the encouragement of employee involvement and empowerment. According

to Hansen and Mowen (2013), Total Quality Management (TQM) is a continual improvement approach crucial in advancing an optimal manufacturing process. The company's overarching objectives encompass producing goods and minimizing waste in alignment with established standards. The theory of Total Quality Management (TQM) entails the establishment of a conducive organizational environment that enables employees to consistently generate flawless products or services characterized by zero defects while also addressing and rectifying previous errors. The prioritization of quality has concurrently necessitated implementing a management accounting system that furnishes both financial and non-financial data about quality.

The allocation of rewards for personnel performance is contingent on the data derived from the evaluation of personnel performance. Rewards can be categorized into two distinct kinds: intrinsic rewards and extrinsic rewards. When people complete their tasks and meet specific objectives, they feel self-satisfied, known as intrinsic rewards. To enhance intrinsic incentives, management can employ many strategies, including augmenting responsibilities, fostering participation in decision-making processes, and implementing initiatives that bolster individuals' self-esteem, thus motivating them to perform optimally. Mulyadi and Setyawan (2017) suggest that implementing performance-based compensation can encourage individuals to shift their focus from pursuing self-interest to actively working towards achieving organizational objectives.

According to Luthans (2015), environmental uncertainty refers to a condition in which an individual is faced with limitations in their ability to accurately anticipate and comprehend the circumstances surrounding them, leading them to take action to address this uncertainty. Chenhall and Morris (2016) assert that perceived environmental uncertainty is the primary contingency factor of utmost significance, which renders the planning and control process more arduous. The challenges in planning operations arise from the senior management's limited capacity to forecast future events. Uncertainty exerts a significant influence on control efforts as well. Rahmiyati (2016) posits that environmental uncertainty arises from internal and external environments. The prevalence of uncertainty is primarily attributed to external factors, including competitors, suppliers, and customers. Darya (2016) categorizes environmental uncertainty into several types in her study. Firstly, a company's external environment can significantly impact its decision-making process and organizational structure. Secondly, having access to information regarding the activities and strategies of competing companies is crucial. Thirdly, the company's business processes should focus on satisfying customer needs and preferences. Lastly, the company's confidence level in its suppliers' ability to consistently provide necessary materials also contributes to environmental uncertainty. The company's confidence in the suppliers' capacity to deliver production materials and the impact of government restrictions on the company's business processes are important considerations. Total quality management (TQM) primarily centers on the perpetual enhancement of processes and systems to fulfill customer expectations and achieve their utmost satisfaction effectively. According to Narsa (2018), overall quality management will enhance managerial performance. Furthermore, effective performance has the potential to improve cost efficiency. This is attributed to the implementation of Total Quality Management (TQM), which incessantly refines quality standards, averting numerous errors and mitigating losses among consumers, suppliers, and staff.

H_1: Total quality management positively and significantly affects managerial performance.

The reward system refers to allocating remuneration to managers, which can be set payments only or a combination of fixed costs and variables dependent upon the manager's performance (Kurnianingsih & Indriantoro, 2021). Every organization or company has a fundamental objective of enhancing the quality of its products or services. To improve their competitiveness, organizations must implement Total Quality Management methodologies. The underperformance of a corporation can be attributed to deficiencies in its management accounting system, with one such deficiency being associated with the reward system. Moorhead and Griffin (2013) assert that the rewards provided by management through the reward system encompass various organizational elements, such as individuals, procedures, regulations, and decision-making processes. These components allocate compensation and benefits to employees as a reciprocal acknowledgment of their corporate contributions. The inadequate design of a firm's reward system has been identified as a potential factor contributing to subpar company performance (Chandrarin & Tearney, 2020). According to Narsa and Yuniawati (2018), implementing a reward system by managers that is designed to promote a perception of equity and contentment or offer enhanced remuneration to managers can catalyze their enhanced performance. A greater (effective) incentive system may motivate managers to improve their performance, as they perceive that the benefits they receive are commensurate with their performance level.

H_2: The reward system positively and significantly affects managerial performance.

The primary driver of environmental uncertainty for organizations stems from several external factors, including the competitive landscape, consumer behavior, supplier dynamics, regulatory frameworks, and technological requirements (Febrianti & Fitri, 2019). In a context characterized by environmental uncertainty, managers may encounter challenges when it comes to the formulation and execution of strategic plans and implementing effective control mechanisms inside the organization. Uncertainty poses a challenge for planning due to the inability to forecast future events accurately. Managing corporate operations becomes challenging in an environment characterized by uncertainty. Swari and Wirasedana (2017) show a negative relationship between environmental fate and managerial performance exists. In other words, when the amount of environmental uncertainty increases, there is a corresponding drop in managerial performance. Environmental fate refers to a condition in which an individual has limitations in accurately anticipating the external context, impeding the ability to ascertain the success or failure of a given decision. One of the determinants impacting the company's success is the level of uncertainty in the environment it operates in. An inverse relationship exists between the capacity for prediction and the degree of environmental uncertainty encountered. This implies that an increase in ecological uncertainty will result in a decrease in managerial performance.

H_3: Environmental uncertainty has a positive and significant effect on managerial performance.

Research Design and Method

This study employs an empirical research methodology, specifically a quantitative approach. The researchers use statistical formulas to facilitate the analysis of the data and information acquired. This research had a sample of 81 participants who were selected from 81 organizations that implement Total Quality Management (TQM) and have obtained the International Organization for Standardization (ISO) certification, namely the Indonesian National Standard (SNI). To ascertain the sample size, the selected sample criteria consist of one respondent who holds the Production Manager or Marketing Manager role within each organization.

The data utilized in this study is classified as primary data, explicitly referring to material directly acquired through field observations. The study's data collection was facilitated by administering questionnaires to employees and managers inside the organization. The structure of each question employs an interval/Likert scale, encompassing a numerical range from 1 to 5. The numerical scale ranging from 1 to 5 indicates varying levels of performance. A score of 1 corresponds to a low level of performance, while a score of 5 corresponds to a high level of performance. The acquired data will undergo analysis through multiple phases of testing. The initial step involves conducting validity and reliability tests on the study data instrument. The second part of the analysis consists of the classical assumption test, which encompasses three critical tests: the normalcy test, the multicollinearity test, and the heteroscedasticity test. The third phase involves testing all hypotheses in this study, which will be assessed through statistical tests such as the coefficient of determination test, partial test (t-test), and simultaneous test.

Table 1. Research Variables and Indicators

Variable	Item	Indicator	Major Reference
Total Quality Management	X1.1	Planning for future needs and expectations	(Lubis, 2018; Pradnyaningtias, 2019)
	X1.2	Obsession with product quality	
	X1.3	Facility support	
	X1.4	Cooperation between employees	
	X1.5	Continuous improvement	
Reward System	X2.1	Salary	(Azmi & Savitri, 2015; Mintje, 2018)
	X2.2	Incentives	
	X2.3	Allowances	
	X2.4	Facility	
	X2.5	Gift	
Environmental uncertainty	X3.1	Competitor state information	(Febrianti & Fitri, 2019; Semekto, 2021)
	X3.2	Needs and wants	
	X3.3	Supplier conditions	
	X3.4	Government regulation	
Managerial Performance	Y1.1	Determine the goal	(Febrianti & Fitri, 2019; Pradnyaningtias, 2019)
	Y1.2	Gather and prepare information	
	Y1.3	Share information with other managers	
	Y1.4	Assess and measure proposals	
	Y1.5	Attention to employees	

Results and Discussion

Statistical Result & Discussion

The analysis of the distributed questionnaire reveals that the respondents' identities may be characterized based on their age, gender, education level:

Table 2. Respondent Demographic Data

Variable	Measurement	n	%
Gender	Man	46	56,8
	Woman	35	43,2
Age	25 - 30 Year	5	6,2
	31 – 40 Year	31	38,3
	41 – 49 Year	35	43,2
	> 50 Year	10	12,3
Education Level	Bachelor	63	77,8
	Master	18	22,2

Source: Primary Data

The second stage is the data quality test, which consists of validity and reliability tests. The criteria used to state an instrument is considered valid or suitable for hypothesis testing if the corrected item-total correlation is more significant than 0.03; if the correlation number obtained from a statement is below 0.3, then the argument is invalid or inconsistent. Conversely, the data is valid if the correlation number obtained from a report is higher than that obtained from information above 0.3. Meanwhile, the test results are reliable if the Alpa Croanbach value is more significant than 0.60. The validity test results for the four variables, namely total quality management, reward system, environmental uncertainty, and managerial performance in Manufacturing Companies located in the Nusantara Bonded Zone, it appears that the four variables with 26 statement items have a correlation value or r-count that is greater than the standard r value of 0.30. Thus, the indicators or questionnaires used by each variable are declared valid to be used as variable measuring instruments because they have a correlation value above 0.30. Based on the results of reliability testing in, it can be seen that the research variables have a Cronbach's alpha value greater than 0.60. Thus, the questionnaire data that the researchers used in this study are very representative in that the data measurements are reliable.

Table 3. Normality Test with One Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		81
Normal Parameters[a,b]	Mean	.0000
	Std. Deviation	4.49558
Most Extreme Differences	Absolute	.087
	Positive	.058
	Negative	-.087
Test Statistic		.087
Asymp. Sig. (2-tailed)		.195[c]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
Source: SPSS Output

The third stage is the classical assumption test, which consists of normality, heteroscedasticity, and multicollinearity tests. The normality test aims to test whether, in a regression, confounding or residual variables have a normal distribution. Normality testing can be done using the One-Sample Kolmogorov-Smirnov test with a significant level of 0.05 or 5%. If the resulting significance is more significant than 0.05, the data distribution is said to be expected. The results of calculating the Kolmogorov- Smirnov Test value for the model were obtained. Table 3 shows that the normality test results state that the one-sample Kolmogorov-Smirnov test value has a sig. A value of 0.195 is more significant than 0.05. Based on these results, the data used in regression testing research has a normal distribution and can be continued for further investigation.

Table 4. Multicollinearity Test Results

Variabel	Colineritas Statistik		VIF Standar	Keputusan
	Tolerance	VIF		
Total Quality Management	0,938	1,066	10	Non Multikolineritas
Reward System	0,969	1,032	10	Non Multikolineritas
Uncertainty Environment	0,913	1,096	10	Non Multikolineritas

a. Dependent Variable: Managerial performance
Source: SPSS Output

The multicollinearity test aims to determine whether there are independent variables that have similarities between independent variables in a regression model. If there is a correlation, it is stated that the regression model has a multicollinearity problem. The multicollinearity test looks at the values of tolerance and Variance Inflation Factor (VIF). If the tolerance value is more significant than 0.10 and VIF is less than 10, it is said that there are no symptoms of multicollinearity. Table 4 shows that the independent variables in the regression model are not correlated with each other, where the VIF value for each independent variable is less than ten, and the tolerance value is above 0.10. This shows no correlation between the independent variables in the regression model, and it is concluded that no multicollinearity problem exists among the independent variables in the regression model formed.

Table 5. Heteroscedasticity Test Results

No.	Variable	Sig.	Info
1.	Total Quality Management	0,304	No heteroscedasticity
2.	Reward System	0,981	No heteroscedasticity
3.	Environmental uncertainty	0,867	No heteroscedasticity

Source: SPSS Output

The results of the heteroscedasticity test using the Glejser test show that the three independent variables, namely total quality management, the reward system, and environmental uncertainty, have a significance value greater than 0.05, so it can be concluded that there is no heteroscedasticity problem in the regression model. Furthermore, hypothesis testing is carried out through multiple linear regression analysis. Multiple linear regression

analysis is an equation that describes the effect of two or more independent variables on the dependent variable.

Table 6. Multiple Linear Regression Analysis Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	17.764	4.880		3.640	.000
	Total Quality Management	.394	.111	.333	3.549	.001
	Reward System	.396	.131	.279	3.022	.003
	Environmental uncertainty	-.668	.204	-.311	-3.268	.002

a. Dependent Variable: Managerial Performance (Y)

Source: SPSS Output

From table 6, the regression equation results will be presented, which can be described as follows:

$$Y = 17{,}764 + 0{,}394X1 + 0{,}396X2 - 0{,}668X3$$

The constant of 17.764 states that if the independent variable is considered constant, the average managerial performance is 17.764. The regression coefficient of the total quality management variable or b1 is positive and amounted to 0.394. If the application of comprehensive quality management is increased, it will improve managerial performance. The regression coefficient of the reward system variable or b2 is positive and equal to 0.396. If the award system is improved, it will improve managerial performance. The regression coefficient of the environmental uncertainty variable or b3 is negative and amounted to -0.668. If environmental uncertainty is increased, it will reduce managerial performance.

Total quality management significantly affects managerial performance in several manufacturing companies in the Nusantara Bonded Zone with a statistical test through the t-test obtained at a fundamental level of 5% with a probability value of 0.001, more diminutive than 0.05. The conclusion of hypothesis 1 is accepted. The reward system significantly affects managerial performance in several manufacturing companies in the Nusantara Bonded Zone; a statistical test through the t-test obtained a probability value of 0.003, more diminutive than 0.05. The conclusion of hypothesis 2 is accepted. Environmental uncertainty significantly affects managerial performance in several manufacturing companies in the Nusantara Bonded Zone; a statistical test through the t-test obtained a probability value of 0.002, more diminutive than 0.05. The conclusion of Hypothesis 3 is rejected. The regression coefficient results for environmental uncertainty are negative, which means that ecological delay does not affect managerial performance in several manufacturing companies in the Nusantara Bonded Zone.

Table 7. Coefficient of Determination (R2)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.602[a]	.362	.338	4.58232

a. Predictors: (Constant), Environmental Uncertainty, Reward System, Total Quality Management
Source: Output SPSS

Based on table 7, the value of R = 0.602 means that total quality management, reward systems, and environmental uncertainty have a strong correlation or relationship to managerial performance, which is 60.2%. The coefficient of determination R2 is then 0.338, which indicates that variations in the three independent variables—total quality management, reward system, and environmental uncertainty—can explain 33.8% of variations in managerial performance. Outside of the independent variables used in this regression model, other factors account for the remaining 66.2%.

The simultaneous test (F test) determines whether all independent variables directly influence the dependent variable. Simultaneous testing compares the probability value with the standard value (0.05). If the probability value is smaller than 0.05, the independent variables simultaneously have a meaningful effect on the dependent variable, which is indicated by statistical testing through the F test.

Table 8. F Test Results (Simultaneous)

ANOVA[a]

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	919.206	3	306.402	14.592	.000[b]
	Residual	1616.819	77	20.998		
	Total	2536.025	80			

a. Dependent Variable: Managerial Performance
b. Predictors: (Constant), Environmental Uncertainty, Reward System, Total Quality Management
Source: SPSS Output

Based on table 8, the results of the ANOVA test, the probability value or value = 0.000 is obtained; because the probability value is smaller than the standard value (0.000 is smaller than 0.05), it can be concluded that total quality management, reward system, and environmental uncertainty have an influence simultaneously on managerial performance in several manufacturing companies located in the Nusantara Bonded Zone.

Discussion

The regression analysis reveals a positive correlation between the implementation of Total Quality Management (TQM) and the level of managerial performance. Total Quality Management (TQM) is a strategic methodology that seeks to enhance a company's productivity, minimize errors and defects, optimize effectiveness and efficiency, and ensure the accurate and precise execution of all activities. The findings from the questionnaire also indicate that organizations that embrace Total Quality Management (TQM) consistently prioritize customer needs and expectations, emphasize product quality, offer resources to support quality enhancement, foster collaboration among employees, engage in ongoing

improvement efforts, facilitate educational and training initiatives, and empower employees to oversee quality-related matters. This research aligns with a study conducted by (Pamungkas, 2015; Murdijaningsih, 2017), which found that total quality management significantly positively affects managerial performance. This study's results differ from those of research (Hardini, 2018; Pradnyaningtias, 2019), which found that TQM does not affect managerial performance.

Implementing a reward system has been found to substantially and favorably impact managers' performance within various Manufacturing Companies situated in the Nusantara Bonded Zone. Implementing a higher reward structure will have favorable outcomes in enhancing managerial performance. This discovery aligns with the theoretical framework by Mulyadi (2017), who posits that providing prizes for exemplary performance can improve an individual's drive to attain predetermined objectives. The observations further yielded various discoveries about the execution of the incentive system. Most participants agreed on the alignment between their pay and workload and the congruence between their incentives, performance, and achievements. Incentives such as the annual holiday bonus (THR), health benefits, and retirement benefits are also considered motivators for exerting more significant effort in one's profession. Nevertheless, official housing amenities are not regarded as a privilege that people are entitled to. Most respondents agreed over the provision of official automobiles by their respective offices. Additionally, a significant proportion of respondents acknowledged that they were incentivized for their work performance through the prospect of promotion. This study supports earlier research by Wulandari et al. (2016) and Swari & Wirasedana (2017) that suggests people are more motivated to work toward predetermined goals when they believe there is a high likelihood that they will receive rewards for good performance or when the rewards are dependent upon achieving such implementation. The findings of this study present contrasting conclusions to the research conducted by Narsa and Yuniawati (2018), as it suggests that the impact of the reward system on managerial performance is not statistically significant.

The impact of environmental uncertainty on managerial performance in various Manufacturing Companies situated in the Nusantara Bonded Zone is notably adverse. This implies that an escalation in environmental uncertainty will lead to a concomitant decline in managerial effectiveness. Environmental uncertainty refers to circumstances in which an organization or its executives have restricted knowledge of their surrounding environment, leading to challenges in accurately anticipating potential alterations. A negative relationship exists between the level of environmental uncertainty encountered and the ability to forecast. An increase in predictive ability can decrease environmental uncertainty, thereby potentially enhancing management performance. Various elements that contribute to environmental uncertainty were identified through field observations. One aspect contributing to environmental uncertainty is the need for more information regarding the state of rivals. Furthermore, the discrepancy between the goods and services provided and the preferences and demands of consumers is also regarded as a contributing factor to ambiguity. Additionally, a lack of comprehensive technological information about the company's external environment, ambiguous supplier conditions, and changes in government regulations all contribute to

environmental uncertainty. This study's results align with earlier research by Frestilia (2018), which showed that environmental factors negatively impact managerial performance. In a survey conducted by Febrianti and Fitri (2019), it was determined that environmental uncertainty has no significant effect on managerial performance.

Conclusions

Based on the findings of this study, the introduction of Total Quality Management (TQM) and the development of a reward system have had a noteworthy and favorable impact on the performance of managers within several Manufacturing Companies situated in the Nusantara Bonded Zone. This finding substantiates the significance of allocating resources to implement effective quality management strategies and providing suitable incentives to enhance managerial performance. On the other hand, it is noteworthy that environmental uncertainty exerts a substantial adverse impact on managerial performance, underscoring the imperative for organizations to possess the capability to predict and effectively navigate this uncertainty to sustain optimal performance levels. The findings suggest that firm management should enhance the implementation of effective Total Quality Management (TQM) and reward systems while devising more flexible solutions to address environmental unpredictability. Furthermore, it is imperative to implement staff training and development initiatives to enhance comprehension of Total Quality Management (TQM) principles. This will also guarantee that the compensation system aligns with employee performance.

As a recommendation, the organization should enhance its customer communication strategies, actively watch competitors, and build robust supplier partnerships to mitigate environmental uncertainty. Furthermore, the implementation of a transparent and equitable compensation system has the potential to enhance employee motivation. The study also highlights the necessity for improved integration of information technology in gathering data pertaining to the organization's external environment, with the aim of mitigating uncertainty. The findings of this study offer significant implications for managers and leaders inside organizations. These insights can be utilized to enhance management performance, optimize Total Quality Management (TQM) implementation, and develop effective compensation systems. Furthermore, these findings can assist firms in preparing for the unavoidable changes and uncertainties in the contemporary business world.

Reference

Azmi, Z., & Savitri, E. (2015). Pengaruh total quality management, sistem pengukuran kinerja, sistem penghargaan terhadap kinerja manajerial (studi empiris pada perusahaan asuransi di Pekanbaru). Jurnal Online Mahasiswa (JOM) Bidang Ilmu Ekonomi, 2(2), 1–15. https://jnse.ejournal.unri.ac.id/index.php/JOMFEKON/article/view/8839

Blocher, E. J., Stout, D. E., Juras, P. E., & Smith, S. (2019). Cost management (a strategic emphasis) 8e. McGraw-Hill Education.

Chandrarin, G., & Tearney, M. G. (2020). The effect of reporting of exchange rate loses on the stock market reaction. The Indonesian Journal of Accounting Research, 3(1). http://www.ijar-iaikapd.or.id/index.php/ijar/article/view/34

Chenhall, R. H., & Morris, D. (2016). The impact of structure, environment, and interdependence on the perceived usefulness of management accounting systems. Accounting Review, 16–35. https://www.jstor.org/stable/247520

Darya, I. G. P. (2016). Pengaruh ketidakpastian lingkungan dan karakteristik kewirausahaan terhadap kompetensi usaha dan kinerja usaha mikro kecil di kota Balikpapan. Asian Journal of Innovation and Entrepreneurship (AJIE), 1(01), 65–78. https://journal.uii.ac.id/ajie/article/view/2736

Dauhan, J. (2018). Total quality management, budaya organisasi pengaruhnya terhadap kinerja manajerial PT. PLN Area Suluttenggo Manado. Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis Dan Akuntansi, 1(4). https://doi.org/10.35794/emba.1.4.2013.3419

Fauzi, A. (2020). Manajemen kinerja. Airlangga university press.

Febrianti, R., & Fitri, Y. (2019). Pengaruh karakteristik informasi sistem akuntansi manajemen, ketidakpastian lingkungan, dan desentralisasi terhadap kinerja manajerial (studi empiris pada perusahaan BUMN di Banda Aceh). Jurnal Ilmiah Mahasiswa Ekonomi Akuntansi, 4(3), 456–470. https://scholar.archive.org/work/za3m3vse45dlrca6djnmi3fieu/access/wayback/http://jim.unsyiah.ac.id/EKA/article/download/12578/pdf

Frestilia, N. (2018). Pengaruh pemanfaatan teknologi informasi, karakteristik informasi sistem akuntansi manajemen, dan ketidakpastian lingkungan terhadap kinerja manajerial. Jurnal Akuntansi, 1(1). https://ejournal.unp.ac.id/students/index.php/akt/article/view/97

Gaspersz, V. (2011). Total quality management: untuk praktisi bisnis & industri. Bandung: Vincristo Publication.

Griffin, R. W., & Moorhead, G. (2013). Perilaku organisasi: manajemen sumberdaya manusia. Jakarta: Penerbit Salemba Empat.

Hansen, D. R., & Mowen, M. M. (2013). Management accounting: buku 2. Jakarta: Salemba Empat.

Hardini, R. (2018). Pengaruh interaksi antara total quality management, sistem pengukuran kinerja dan sistem penghargaan terhadap kinerja manajerial pada PDAM Surabaya. STIE Perbanas Surabaya. http://eprints.perbanas.ac.id/1495/

Kumentas, C. N. (2018). Pengaruh TQM, sistem pengukuran kinerja dan penghargaan terhadap kinerja manajerial Pt. Pos Indonesia. Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis Dan Akuntansi, 1(3). https://doi.org/10.35794/emba.1.3.2018.1888

Kurnianingsih, R., & Indriantoro, N. (2021). Pengaruh sistem pengukuran kinerja dan sistem penghargaan terhadap keefektifan penerapan teknik total quality management studi empiris pada Perusahaan Manufaktur di Indonesia. The Indonesian Journal of Accounting Research, 4(1). http://doi.org/10.33312/ijar.49

Lubis, H. Z. (2018). Pengaruh total quality management terhadap kinerja manajerial dengan sistem pengukuran kinerj sebagai variabel moderating (studi pada perusahaan manufaktur di KIM). Jurnal Riset Akuntansi Dan Bisnis, 8(1). https://jurnal.umsu.ac.id/index.php/akuntan/article/download/445/406

Lunenburg, F. C. (2017). Self-efficacy in the workplace: Implications for motivation and

performance. International Journal of Management, Business, and Administration, 14(1), 1–6. http://nationalforum.com/Electronic

Luthans, F. (2015). Organizational behavior 10 th edition. Penerjemah Vivin Andhika Yuwono, Shekar Purwanti, Th. Arie P., Dan Winong Rosari. Andi Yogyakarta.

Milliken, F. J. (2007). Three types of perceived uncertainty about the environment: State, effect, and response uncertainty. Academy of Management Review, 12(1), 133–143. https://cir.nii.ac.jp/crid/1360294647626629888

Mintje, N. (2018). Pengaruh TQM, sistem penghargaan dan sistem pengukuran kinerja terhadap kinerja manajerial pada PT. Air Manado. Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis Dan Akuntansi, 1(3). https://doi.org/10.35794/emba.1.3.2013.1939

Mulyadi, J. S. (2017). Sistem perencanaan dan pengendalian manajemen. Yogyakarta: Aditya Media.

Mulyadi, S. (2017). Sistem akuntansi edisi 3. Jakarta: Salemba Empat.

Murdijaningsih, T., Cahyo, H., Setiawan, H., & Arinastuti, A. (2017). Interaksi total quality management dan sistem reward terhadap kinerja manajerial pada BPR di Kabupaten Banyumas. Performance: Jurnal Personalia, Financial, Operasional, Marketing Dan Sistem Informasi, 24(2), 36–41. http://jos.unsoed.ac.id/index.php/performance/article/download/698/820

Narsa, I. M., & Yuniawati, R. D. (2018). Pengaruh interaksi antara total quality management dengan sistem pengukuran kinerja dan sistem penghargaan terhadap kinerja manajerial studi empiris pada Pt. Telkom Divre V Surabaya. Jurnal Akuntansi Dan Keuangan, 5(1), 18–34. http://ced.petra.ac.id/index.php/aku/article/view/15698

Pamungkas, K. T. (2015). Pengaruh total quality management terhadap kinerja manajerial (studi empiris di perusahaan daerah Pasar Surya). AKRUAL: Jurnal Akuntansi, 6(2), 178–194. https://doi.org/10.26740/jaj.v6n2.p178-194

Pradnyaningtias, R. (2019). Pengaruh total quality management dan partisipasi penganggaran terhadap kinerja manajerial pada PT Tolan Tiga Indonesia. Universitas Sumatera Utara. https://repositori.usu.ac.id/handle/123456789/65091

Rahmiyati, R. (2016). Pengaruh total quality management (TQM) dan ketidakpastian lingkungan terhadap kinerja manajerial (studi empiris pada perusahaan perbankan di Kota Padang). Jurnal Akuntansi, 3(1). https://ejournal.unp.ac.id/students/index.php/akt/article/view/1528

Robbins, S. P., & Judge, T. A. (2013). Essentials of organizational behavior. In Pearson (Vol. 12). https://id1lib.org/book/5156824/48bfac

Semekto, A. (2021). Ketidakpastian lingkungan dan lingkup sistem informasi akuntansi manajemen terhadap kinerja manajerial pada usaha mikro, kecil dan menengah (UMKM) di Surabaya. JRAP (Jurnal Riset Akuntansi Dan Perpajakan), 8(2), 235–242. https://doi.org/10.35838/jrap.2021.008.02.19

Sitawati, R. (2016). Analisis pengaruh total quality management (TQM) terhadap kinerja manajerial dengan gaya kepemimpinan, sistem pengukuran kinerja, dan sistem penghargaan sebagai variabel moderating. Jurnal Ekonomi Manajemen Akuntansi, 23(40). http://ejurnal.stiedharmaputra-smg.ac.id/index.php/JEMA/article/view/229

Subkhi, A., & Jauhar, M. (2013). Pengantar teori dan perilaku organisasi. Jakarta: Prestasi

Pustaka.

Swari, N. P. L. R. I., & Wirasedana, I. W. P. (2017). Pengaruh sistem penghargaan, total quality management (tqm), sistem pengukuran kinerja, dan ketidakpastian lingkungan terhadap kinerja manajerial. E-Jurnal Akuntansi Universitas Udayana, 21(1), 830–856. https://ojs.unud.ac.id/index.php/Akuntansi/article/download/33722/20857

Wulandari, D. A., Cahyono, Y. T., & MM, A. (2016). Pengaruh total quality management, sistem pengukuran kinerja, sistem penghargaan, dan komitmen organisasi terhadap kinerja manajerial (studi kasus pada Perusahaan Batik Danar Hadi). Universitas Muhammadiyah Surakarta. https://eprints.ums.ac.id/id/eprint/45642