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The Influence of Total Quality Management and Occupational Health and Safety on Operational Performance at PT. BS

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ABSTRACT : *The aim of this research is to examine the effect of total quality management (TQM) and Occupational Health and Safety (OHS) on PT. BS's operational performance. The data used is the primary data obtained through questionnaires prepared with closed questions and the scale used is semantic differential. The research type was associative causal with quantitative approach, the sample used was 220 samples to meet the requirement of maximum likelihood estimation (ML) regression, structural equation modeling (SEM) developed in this research and regression analysis using AMOS computer program. This study founded that TQM implementation has a positive influence on the operational performance of the company as well as the implementation of OHS has a positive influence on the company's operational performance if in its implementation, the company builds a good understanding and done consistently.*

KEYWORDS: *TQM, OHS ,Operational Performance, Causal Associative, ML, SEM - AMOS.*

I. INTRODUCTION

Now, in the world of very strict for global competition, many people talk about quality and safety in work related to the work that produces products or services. In addition, it also requires insight into the good operating processes that are able to compete in the fields of production and services. Improving the management of the operation process can increase competition in increasing business towards the progress of a company. By using a good management system where this management system can be used as a tool to improve company performance through its operating performance. One of the quality management tools commonly used is Total Quality Management (TQM) and the influence of occupational health and safety (OHS) in the company. In improving the operating performance of PT. BS, where operations division employees are required to do their jobs properly. Phenomena that occur at PT. BS, where there are several constraints in the scope operations such as customer complaints, product failure ratios, inventory costs (supply of goods), transport costs and delivery times.

In this case the author suggests the purpose of the preparation of this research report is to determine the level of influence between Total Quality Management (TQM) and the culture of Occupational Health Safety (OHS) on the Operational Performance of PT. BS. In conducting research factors that will always be a barrier and cannot be avoided are the time factor, company confidentiality and limited facilities. For this reason, limitation of the problem is done so that the results obtained do not deviate and the limitations of the research conducted only examine the operational scope. The formulation of the problem in this research is how the influence between Total Quality Management (TQM) and the Occupational Health Safety (OHS) culture on the Operational Performance of PT. BS? In this case the author suggests the purpose of the preparation of this research report is to determine the level of influence between Total Quality Management (TQM) and the Occupational Health Safety culture (OHS) on the Operational Performance of PT. BS.

II. STUDY OF THEORY AND METHOD

Total Quality Management is an approach in running a business that tries to maximize the competitiveness of an organization through continuous improvement of products, services, labor, processes and environment. The application of TQM requires a strong commitment in making continuous improvements to products, services, labor, processes and the environment. TQM can also be interpreted as a combination of all management functions, all parts of a company and everyone in a holistic philosophy that is built on the concepts of quality, teamwork, productivity, and customer satisfaction.

There are ten characteristics of Total Quality Management: focus on customers, obsession with quality, scientific approach, long-term commitment, teamwork, continuous system improvement, education and training, controlled freedom, unity of purpose and the involvement and empowerment of employees. **Work safety** is safety related to machinery, aircraft, work tools, materials, and processing, workplaces and their environment and ways of doing work. **Occupational Health** is an effort to prevent occupational diseases (occurring during normal operations). **Performance** is a description of the level of achievement of an activity or policy in realizing the goals, objectives, mission, and vision of the organization contained in the strategic planning of an organization. **Operation** is part of a business organization whose job is to produce goods or services.

Methode : This study is to provide an analysis of the effect of the variables Total Quality Management (X1), Occupational Safety and Health (X2) and Operational Performance (Y). The research method that the author uses to achieve these objectives is the Causal Associative Research Method with a survey approach. The data used in this study are primary data and secondary data. Primary data is data obtained directly from the research subject or the respondent contained in the questionnaire, with the respondents being employees of PT. BS numbered 220 respondents. Questionnaires for the three variables used the interval scale (distance scale), in interpreting the values obtained by researchers holding on to the definition of interval scale and the assumptions that are commonly used in research, namely that the respondent gives the answer number 9-10, then he is higher than the give grades 7-8, 5-6, 3-4 and 1-2.

The analysis method in this study uses **Structural Equation Modeling (SEM)**. Structural Equation Modeling (SEM) is a multivariate analysis that can analyze the relationship of variables in a complex manner. This analysis is generally used for studies that use many variables. Hypothesis testing is done using the AMOS version 22 program to analyze the causality relationship in the proposed structural model between independent, intervening and dependent variables while examining the validity and reliability of the overall research instrument. Validity Test is used to measure the validity of a questionnaire. A questionnaire is said to be valid if the question in the questionnaire is able to express something that will be measured by the questionnaire. If the loading factor> 0.50 can be said to be valid. Reliability testing is intended to measure the level of consistency of the research instrument. In this study tested through Confirmatory Factor Analysis, and if the Cronbach's alpha value is greater or equal to 0.60 means the instrument is reliable.

CFA test or construct validity test, intended to know that each indicator can explain the existing construct. The indicators used to measure the research variables are indicators that have p value <0.05 and loading factor> 0.5, while indicators that have p value> 0.05 and loading factor <0.5 are eliminated from the model

Multivariate normality test, evaluation was carried out using the criterion critical ratio (cr) from the multivariate in kurtosis, if it was in the range of -2.58 to 2.58, the data were normally distributed in a multivariate manner (Haryono, 2017: 245)

The multicollinearity test aims to see a strong influence between the independent variables (exogenous). Multicollinearity can be seen through the determinant of the covariance matrix. Very small determinant values indicate indications of multicollinearity and singular problems. It is expected that the determinant value will stay away from 0 and better if more than. According to Haryono (2017: 249), despite multicollinearity, however, it is still acceptable if other SEM assumptions are met.
The model fit test or Goodnest of fit is to find out how precisely the manifest variables (indicator variables) can explain the latent variables that exist, along with their explanations:

X2-Chi-Square statistics, the smaller the better the model is and is accepted based on probability with a cut-off value of p> 0.05 or p> 0.10.

RMSEA (The Root Mean Square Error of Approximation), is an index used to compensate for chi-square in a large sample. A RMSEA value that is small or equal to 0.08 is an index for which the model can be accepted based on the degree of freedom.

GFI (Goodness of Fit Index), is a non-statistical measure that has a range of values from 0 to 1. A high value in this index shows a "better fit".

The AGFI (Adjusted Goodness of Fit Index), is a criterion that takes into account the weighted proportion of variants of a sample covariance matrix. The recommended level is if AGFI has a value equal to or greater than 0.90.

CMIN / DF (The Minimum Sample Discrepancy Function Devided with Degree of Freedom), is a chi-square X2 statistic divided by the degree of freedom so that it is called X2 relative. The relative value of X2 less than 2.0 or 3.0 is an indication of the acceptable model and data.

TLI (Tucker Lewis Indeex), is an incremental index that compares a model tested against a baseline model, where the recommended value as a reference for a model is ≥ 0.95 and a value close to 1 is a very good fit. CFI (Comparative Fit Index), the range of values is 0-1, which is closer to 1 indicating the highest level of fit.

III. RESULTS

If Corrected Item-Total Correlation (r count) above the table with respondent 220 is 0.312 shows a valid item. Reliability testing is intended to measure the level of consistency of research instruments. If the value of Cronbach's alpha is greater or equal to 0.6, means the instrument is reliable.

Construct	Indicator	*Cronbach's alpha*	Information	*Corrected Item-Total Correlation*	*Information*
Total Quality Management	TQM1	1,036	*Reliabel*	0.885	*Valid*
	TQM2			0.873	*Valid*
	TQM3			0.828	*Valid*
	TQM4			0.873	*Valid*
	TQM5			0.855	*Valid*
	TQM6			0.814	*Valid*
	TQM7			0.829	*Valid*
	TQM8			0.863	*Valid*
Occupational Health and Safety (OHS)	KKK1	1,027	*Reliabel*	0.828	*Valid*
	KKK2			0.866	*Valid*
	KKK3			0.867	*Valid*
	KKK4			0.861	*Valid*
	KKK5			0.883	*Valid*
Operational Performance	KOP1	1,029	*Reliabel*	0.905	*Valid*
	KOP2			0.879	*Valid*
	KOP3			0.909	*Valid*
	KOP4			0.893	*Valid*
	KOP5			0.886	*Valid*

Multivariate Normality Test Results : Based on the output of the Assessment of Normality below it can be seen as a whole (multivariate) the data distribution is normal, because the multivariate number of 1,891 has been in the range of -2.58 to 2.58.

Variable	min	max	skew	c.r.	kurtosis	c.r.
KKK1	7.000	10.000	-.125	-.759	-.884	-2.677
KKK2	7.000	10.000	-.094	-.570	-.950	-2.876
KKK3	7.000	10.000	-.297	-1.800	-.876	-2.651
KKK4	7.000	10.000	-.224	-1.353	-.734	-2.221
KKK5	7.000	10.000	-.177	-1.074	-.995	-3.012
TQM1	7.000	10.000	-.269	-1.627	-1.323	-4.004
TQM2	7.000	10.000	-.228	-1.382	-.947	-2.867
TQM3	7.000	10.000	-.111	-.672	-.900	-2.725
TQM4	7.000	10.000	-.088	-.535	-1.291	-3.908
TQM5	7.000	10.000	-.032	-.194	-.910	-2.755
TQM6	7.000	10.000	-.263	-1.593	-.843	-2.553
TQM7	7.000	10.000	.059	.356	-.906	-2.744
TQM8	7.000	10.000	-.135	-.819	-1.037	-3.138
KOP5	7.000	10.000	-.256	-1.553	-.872	-2.639
KOP4	7.000	10.000	-.158	-.957	-.986	-2.985
KOP3	7.000	10.000	-.171	-1.038	-1.176	-3.562
KOP2	7.000	10.000	-.186	-1.127	-.879	-2.660
KOP1	7.000	10.000	-.099	-.598	-1.042	-3.156
Multivariate					6.841	1.891

The GFI (Goodness of Fit Index) test results below show goodness of fit after modifying the model. The indicator has more than 5 fit in accordance with the expected criteria with the total overall yielding GFI results that are "good fit".

Goodness of Fit	Cut of Value	Result	Decision
Chi Square Probability	≥ 0,05	0,134	Good fit
CMIN/DF	≤ 2,00	1,197	Good fit
GFI	≥ 0,90	0,960	Good fit
AGFI	≥ 0,90	0,925	Good fit
CFI	≥ 0,90	0,993	Good fit
TLI	≥ 0,90	0,989	Good fit
NFI	≥ 0,90	0,962	Good fit
IFI	≥ 0,90	0,994	Good fit
RMSEA	≤ 0,08	0,029	Good fit
RMR	≤ 0,05	0,019	Good fit

Hypothesis test, after an overall structural model can be considered fit, the next process is to see the influence between the independent variables and the dependent variable.

Regression Weights:				Estimate	P
Operational (KOP)	Performance	<--	Total Quality Management (TQM)	,550	***
Operational (KOP)	Performance	<--	Occupational Health and Safety (OHS)	,546	***

In the SEM model above there are 2 relationships, so there are 2 hypotheses: The basis of decision making is if the value of P (Probability)> 0.05 then H0 is accepted or there is no influence, if the value of P (Probability) <0.05 then H0 is rejected or there is influence. Based on the table above, it can be

concluded as below: There is an influence of the influence of Total Quality Management on Operational Performance. This is because the probability value is less than 0.05, which is equal to ***. Positive estimate value of 0.550 means that the effect is positive.
There is an influence of the Occupational Safety and Health Culture on Operational Performance. This is because the probability value is less than 0.05, which is equal to ***. Positive estimate value of 0.546 means that the effect is positive.

IV. CONCLUSION

The results of data analysis show that Total Quality Management has significant effect on Operational Performance. The results of data analysis obtained an estimated value of 0.550 with a probability equal to *** which is smaller than 0.05. This means that Total Quality Management issued through 8 indicators is positive or agreed on Operational Performance.
The results of data analysis showed that the Occupational Safety and Health Culture (OHS) significantly affected Operational Performance. The results of data analysis obtained an estimated value of 0.546 with a probability equal to *** which is smaller than 0.05. This means that the Occupational Safety and Health Culture (OHS) needed through 5 indicators is positive or related to Operational Performance.
There is a positive influence between Total Quality Management on Operational Performance and there is also a positive between Occupational Safety and Health Culture (OHS) on Operational Performance, meaning that the results of this study answer all hypotheses that existed in previous Preliminary discussions.

IV ACKNOWLEDGEMENTS

PT. BS should further improve continuous system improvement in order to increase Total Quality Management. continuous system improvement is one factor in increasing Total Quality Management. PT. BS should improve information to prevent personnel negligence and improve security of unsafe conditions in the work environment so that Occupational Safety and Healt) is also expected to increase. To generalize the results, further research is expected to be carried out in several similar companies, namely wheat flour producers
Future studies are expected to add constructs to be able to identify more deeply about.

REFERENCES

1. Abdul Talib Bon dan Esam M.A. Mustafa,. Impact of Total Quality Management on Innovation in Service Organizations: Literature review and New Conceptual Framework, Procedia Engineering 53 (2013) 516 – 529
2. Bambang E.Yuwono, Djemari Mardapi dan Soenarto. .Model of learning/training of Occupational Safety & Health (OSH) based on industry in the construction industry, Procedia Engineering 125 (2015) 83 – 88
3. Ellena Gonzales, Key Performance Indicators for Wind Farm Operation and Maintenance. Energy Procedia 137 (2017) 559–570
4. The Influence of Quality Control Product and Quality Control Production Machine on Operational Performance, Kambali, N Sulistyowati, Saudi Journal of Business and Management Studies (SJBMS), 1235-1242
5. Augusty Ferdinand. (2014) Metode Penelitian Manajemen: Pedoman Penelitian untuk Skripsi, Tesis dan Disertasi Ilmu Manajemen Edisi 5. Badan. Penerbit Universitas Diponegoro. Semarang
6. Haryono, Siswoyo. (2017). Metode SEM Untuk Penelitian Manajemen dengan AMOS Lisrel PLS. Cetakan I. Penerbit Luxima Metro Media, Jakarta.