

DETERMINANTS OF MANAGERIAL PERFORMANCE IN MUHAMMADIYAH UNIVERSITIES: INNOVATION AND SDG'S 12

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ABSTRACT

This study aims to formulate Determinants of Improving Managerial Performance of Muhammadiyah Universities with Innovation Performance as a Moderating Variable for Achieving SDG's No. 12. The research method used is quantitative method with data collection through questionnaires. The research sample was all employees of Muhammadiyah Universities in East Java. The results showed that Information Technology has no effect on Managerial Performance, Budget Participation has no effect on Managerial Performance, but Total Quality Management (TQM) affects Managerial Performance. Furthermore, Innovation Performance can moderate the effect of Information Technology and Total Quality Management (TQM) on Managerial Performance, but cannot moderate the effect of Budget Participation on Managerial Performance. This study implies that improving the Managerial Performance of Muhammadiyah Universities can be done by implementing Total Quality Management (TQM) and supported by Innovation Performance as a moderating variable. This research is expected to be a reference for further research related to improving Higher Education Managerial Performance

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INTRODUCTION

The managerial performance of education is a measure of a nation's progress to penetrate global competition. The education system in Indonesia starts from kindergarten, elementary school, junior high school, high school, and college. Muhammadiyah University is one of the private universities that participate in educating the community. It cannot be denied that currently the competition between universities is very tight in providing educational services to students. Services provided to students in the form of providing quality graduates (Azis & Tatminah, 2019). Muhammadiyah College of East Java has a duty to improve services, improve facilities and infrastructure, and others. Muhammadiyah universities compete fiercely in providing quality education, superior academic reputation, and educational innovation. Muhammadiyah universities compete to produce graduates who are competitive in society and industry. Therefore, organizational performance is needed to produce work results that match the target. The term performance comes from the English "performance".

Performance is the desired result of the behavior performed by employees. This term comes from the verb job performance or actual performance (work performance). And managerial performance can be interpreted as the result of an effective managerial activity process starting from the planning, implementation, administration, accountability reports, coaching, and supervision process. "Performance is the result of work in quality and quantity achieved by an employee in carrying out his duties in accordance with the responsibilities given to him" (Mangkunegara, 2013). Innovation affects firm performance by creating new products, services, or processes that are more efficient and effective. Adding innovation variables to performance analysis helps measure a company's ability to innovate, maintain competitiveness, improve customer satisfaction, and respond to market changes. Measuring innovation performance enables strategy evaluation, identification of areas of improvement, and encourages a culture of innovation. Sustainable

Development Goals (SDG's) is a master plan oriented towards the survival of humanity and the future of the world. The idea of SDG's is inseparable from the success of the MDG's (Millennium Development Goals) which ended in 2015. SDG's which is the development of MDG's has 17 sustainable development goals with 169 targets, therefore the SDG's program has a broad scope and is more prepared for universal needs with the principle of development that no one will be left behind, and every person and every country must be considered to have the same responsibility to play a role in carrying out this global vision (Aditama & Widowati, 2017).

State of the Art is taken from several collections of previous studies used for reference in this study which provide an explanation of the comparison in the research to be carried out. Previous research concluded that participation can improve managerial performance and the higher the budget participation, the better the managerial performance (Pakasi, 2015). The higher the level of budget participation, it will improve managerial performance, thus the first hypothesis is accepted, which means that hospitals that implement a budget participation system can improve managerial performance (Widyawati, 2018).

Managerial performance in agencies is the focus of this research. Managerial performance is one of the important factors that can be used to improve organizational effectiveness. The novelty in this study is that researchers use the variables of Information Technology, Budget Participation, and Total Quality Management (TQM) with Innovation Performance as a moderating variable in Improving Managerial Performance of Muhammadiyah Universities. The update of this study is to use innovation performance as a moderating variable and add independent variables of Budget Participation, and Total Quality Management (TQM) (Meirina & Dewi, 2021). Total Quality Management (TQM) focuses on continuous improvement in all aspects of operations through the involvement of all employees. In managerial improvement, TQM encourages managers to improve efficiency, effectiveness, and quality by developing better systems, training employees, improving communication, and using data for better decisions. TQM helps managers proactively identify problems, improve leadership, and create a work environment that supports innovation and performance improvement.

Based on the problems faced, it is known that universities are non-profit organizations that do not have a structure like private companies but have a long life cycle. Related to its main function of knowledge production and dissemination, universities need to improve competitiveness as well as services, and universities should report to stakeholders what has happened to universities from the point of view of knowledge development and contribute to transparency and increase trust (Ulum et al., 2014).

In this section, Present the State of the art (review of literature or previous research briefly, regarding articles no later than the last 10 years. Explain the gap analysis/contribution of novelty clearly and explicitly by comparing previous researches and what the importance of this research is done. Explain the purpose of the research in the article in a straightforward way. The paragraphs should be single-spacing. The spacing, before or after, is 0 pt. In this section, provide an adequate research background of the study and add the current research to show the gap of the research, research problem, and research objectives. The paragraphs should be single-spacing. The spacing, before or after, is 0 pt. In this section, provide an adequate research background of the study and add the current research to show the gap of the research, research problem, and research objectives.

The problem in determining the improvement of managerial performance of Muhammadiyah universities involves the complexity of integrating innovation. Therefore, this research was conducted to formulate the Determinants of Improving Managerial Performance of Muhammadiyah Universities with Innovation Performance as a Moderating Variable for Achieving SDG's No. 12.

RESEARCH METHODS

The research method used in this research is a quantitative method with a contingency approach, where primary data is collected through questionnaires. The research object is the object used for research by researchers. This research was conducted at Muhammadiyah Universities spread across East Java. Population is the whole of the elements that can be used as material to make conclusions. In this study, the population used was all employees of Muhammadiyah colleges in East Java with. The sample is the entire population or a group of selected populations used in a study (Hermawan, 2003).

The type of data used is subject data and the data source in this study is primary data using a questionnaire. The questionnaire aims to determine the incidence and severity of each identified inefficient activity. Respondents of the questionnaire were employees of Muhammadiyah Universities in East Java. The questionnaires were completed using a Likert scale.

The main data of this study are data collected directly from respondents through questionnaires to all employees of Muhammadiyah universities in East Java with a total of 162 East Java PTMs being the research sample population. Simple linear regression is used to test the relationship between variables, as well as to test the relationship between moderating variables with Moderated Regression Analysis (MRA) used to determine the interaction between the dependent and independent variables moderated by one variable, in this case as a moderating variable.

RESULTS AND DISCUSSION

Descriptive Statistics Results

Table 1. Descriptive Statistics Results

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	21.95	30.12	27.13	2.392	32
Std. Predicted Value	-2.162	1.251	.000	1.000	32
Standard Error of Predicted Value	.017	.066	.032	.011	32
Adjusted Predicted Value	21.73	30.15	27.12	2.403	32
Residual	-.200	.177	.000	.065	32
Std. Residual	-2.771	2.454	.000	.898	32
Stud. Residual	-3.471	3.195	.042	1.125	32
Deleted Residual	-.313	.300	.009	.108	32
Stud. Deleted Residual	-4.725	4.069	.036	1.358	32
Mahal. Distance	.815	24.700	5.812	4.939	32
Cook's Distance	.000	1.671	.140	.375	32
Centered Leverage Value	.026	.797	.187	.159	32

Results of the Coefficient of Determination (R²)

The coefficient of determination (R²) is a value that indicates the percentage contribution of all independent variables to the dependent variable. Based on the data processing process carried out, the following results were obtained

Table 2. Result of the Coefficient of Determination

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	1.000 ^a	.999	.999	.072

a. Predictors: (Constant), Teknologi Informasi, Partisipasi Anggaran, dan Total Quality Management

b. Dependent Variable: Kinerja Manajerial

From table 2, the R-Square value is 0.999. This means that the contribution of the influence of the independent variable on the dependent variable is 99.9%, while the remaining 0.1% is influenced by other variables not included in this regression model.

Moderated Regression Analysis Result (MRA)

The following will explain the relationship between the independent and dependent variables in this study:

Table 3. Moderated Regression Analysis Result Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.856	1.527		.561	.580
	X1	.015	.022	.015	.697	.492
	X2	-.043	.057	-.053	-.763	.453
	X3	.961	.071	.868	13.621	.000
	X1-Z	.040	.003	1.698	13.833	.000
	X2-Z	.001	.002	.084	.674	.507
	X3-Z	-.041	.003	-1.664	-14.309	.000

Information Technology Affects Managerial Performance

Testing the first hypothesis is done by looking at the relationship between information technology and managerial performance, it can be seen in table 3 that the significant value is $0.492 > 0.05$, thus it can be concluded that information technology has no effect on managerial performance. The first hypothesis testing was carried out by looking at the relationship between information technology and managerial performance, it can be seen with a significant value of $0.492 > 0.05$, thus it can be concluded that information technology has no effect on managerial performance (DeLone & McLean, 2003). This research is in line with the opinion that information technology has no effect on managerial performance (Satria, 2015) (Auliasari, 2020). The rejection of the results of this study can be caused by an imbalance between the sophistication of information technology and the capabilities and human resources available. Managers or individuals who have never attended training or courses that can support their work tend to experience a decrease in skills in using technology. As a result, the technology that is developing today does not contribute to improving managerial performance. In addition, lack of experience in using technology can also be a contributing factor.

Budget Participation Affects Managerial Performance

Testing the second hypothesis in this study is to examine the positive effect of budget participation on managerial performance, it can be seen in table 3 that the significant value is $0.453 >$

0.05, thus it can be concluded that budget participation has no effect on managerial performance. The results showed that budget participation has no effect on managerial performance because the significant value is more than 0.05, where the results of this hypothesis are supported by research where the results of the study found that budget participation has a negative effect on managerial performance (Aschab, 2006) (Hamdani & Basri, 2016). It is explained that although budget participation is intended to increase involvement and accountability, if it is not implemented properly, it can actually have a negative impact on managerial performance.

Total Quality Management Affects Managerial Performance

Testing the third hypothesis in this study is to test the positive effect of Total Quality Management on managerial performance, in table 3 the significant value of $0.00 < 0.05$ means that there is an effect of implementing total quality management on managerial performance. The results of this study are in line with research that states TQM has an effect on Managerial Performance with companies or agencies can achieve good managerial performance by implementing continuous efforts in quality development (Badzaly, 2021). One management strategy that focuses on quality is the implementation of Total Quality Management (TQM), which is considered the best method. TQM is an approach to running a business that aims to maximize organizational competitiveness through continuous improvement in products, services, human resources, processes, and the work environment.

Innovation Performance Moderates the Effect of Information Technology on Managerial Performance

The fourth hypothesis regarding the Innovation Performance variable that moderates the relationship between information technology and managerial performance in table 3 that the significant value is $0.00 < 0.05$, which means this hypothesis is accepted. These results indicate that the innovation performance variable can moderate the information technology variable on managerial performance and these significant results indicate that increasing information technology will improve managerial performance by being moderated by the innovation performance variable at Muhammadiyah Universities (PTM) in East Java. These results are in line with research which states that innovation variables can moderate other variables (Aschab, 2006).

Innovation Performance Moderates the Effect of Budget Participation on Managerial Performance

The fifth hypothesis regarding the innovation performance variable that moderates the relationship between budget participation and managerial performance in table 3 has a significant value of $0.507 > 0.05$, which means that this hypothesis is rejected. The results of statistical testing show that perceived innovation does not moderate the effect of budget participation on managerial performance. Based on the results of statistical testing, it is known that perceived innovation does not moderate the effect of budget participation on managerial performance. Perceived innovation provides an overview of how far a manager considers themselves innovative. How much they are open to changes that allow organizational development towards a better direction. Perceptions formed by a person are able to develop into ideas and attitudes which will ultimately affect the behavior of the individual. With this, it can reflect that the level of innovation affects a person's behavior, therefore the existence of pseudo-participation in the budgeting process can show that managers who are not involved in the budgeting process believe or believe that the managers involved in this matter are able to realize the work plan they have prepared (Pratama & Kurnia, 2018).

Innovation Performance Moderates the Effect of Total Quality Management on Managerial Performance

The sixth hypothesis regarding the Innovation Performance variable that moderates the relationship between Total Quality Management (TQM) and managerial performance on the table 3 significant value of $0.00 < 0.05$, which means that this hypothesis is accepted. Total quality management can be used in companies or organizations, such as for example at Muhammadiyah Universities (PTM) in East Java which have established total quality management and have succeeded in improving managerial performance. Through innovation performance as a moderator can affect Total Quality Management Affects Managerial Performance. This is because the existence of TQM applied to Muhammadiyah PTM in East Java can compete excellently by producing good quality services according to the needs of PTM and can motivate PTM officials to further improve their managerial performance. To ensure superior quality of products or services, continuous improvement can be done (Regina Nursedima Marpaung et al., 2022).

CONCLUSIONS AND SUGGESTION

Based on the analysis and discussion in the previous section, it can be concluded that information technology has no effect on managerial performance, budget participation has no effect on managerial performance, Total Quality Management (TQM) affects managerial performance, Innovation Performance can moderate the Effect of Information Technology on Managerial Performance, Innovation Performance cannot moderate the Effect of Budget Participation on Managerial Performance, and Innovation Performance can moderate the Effect of Total Quality Management on Managerial Performance. This research contributes to enriching the literature on Determinants of Managerial Performance of Muhammadiyah Universities (PTM), especially in East Java, by examining the role of Information Technology, Budget Participation, and Total Quality Management (TQM) as well as the influence of Innovation Performance as a moderating variable. Practically, the results of the study can provide recommendations for PTMs to improve Managerial Performance by paying attention to influential factors, so that PTMs can compete excellently to contribute to the achievement of Sustainable Development Goals (SDG's) No. 12 related to Responsible Consumption and Production through improving the quality of sustainable education. The limitation in this study is that it only focuses on Muhammadiyah Universities in East Java, so the research results cannot be generalized to all universities in Indonesia. In addition, this study only uses primary data in the form of questionnaires, so it needs to be complemented with secondary data to provide a more comprehensive understanding.

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