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# The Influence of Internal and External Quality Audit on The Sustainability of Surabaya Merchant Marine Polytechnic

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## ABSTRACT

**Purpose:** The era of globalization and free markets forces universities to organize themselves by introducing internal quality assurance to guarantee the quality of education and services. In addition to internal quality assurance, universities as labor producers also require quality assurance from certification bodies outside the university. Several previous studies examined the influence of internal and external quality audits on work productivity and employee performance. In this study, the effect was seen to be different from before, namely knowing the effect of internal and external quality audits on the sustainability of the Surabaya Merchant Marine Polytechnic. The purpose of this study was to determine whether internal and external quality audits affect the sustainability of the Surabaya Merchant Marine Polytechnic.

**Design/methodology/approach:** This study uses quantitative research with a population and the sample is a work unit at the Surabaya Merchant Marine Polytechnic which is involved with internal and external quality audits. The data collection method in this study was to use questionnaires using multiple linear regression analysis. Tests in this study used SPSS statistics version 26.

**Findings:** The conclusion of this study is that there is a significant influence between internal and external quality audits on the sustainability of the Surabaya Merchant Marine Polytechnic either partially or simultaneously. The variable that has the dominant influence on this study is the internal quality audit.

**Paper type:** Research Paper.

**Keyword:** *Audit, External Quality Audit, Internal Quality Audit, Sustainability*

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## I. INTRODUCTION

Politeknik Pelayaran Surabaya is one of 50 shipping schools (both colleges, high schools, polytechnics, shipping academies, and SMK in the field of shipping) in Indonesia that focus on shipping, marine and maritime fields. Of the 50 shipping schools in Indonesia, the Surabaya Shipping Polytechnic must be able to maintain its existence in the world of shipping education. Therefore, the Surabaya Shipping Polytechnic is required to be able to provide education / learning and services to cadets (students) in accordance with the National Higher Education Standards, STCW Standards (*Standards of Training Certification and Watchkeeping*), IMO (*International Maritime Organization*) Standards, and also ISO 9001: 2015 Standards with the aim of producing quality graduates in accordance with graduate profiles and graduate learning outcomes (CPL) that has been set.

Graduates of the Surabaya Shipping Polytechnic are required to be competent in accordance with the field pursued and also skilled in foreign language communication skills (English, Japanese, Mandarin). This is due to the large number of graduates from competitors who are also competitors for Surabaya shipping polytechnic graduates in the work industry / maritime industry. Here the Surabaya Shipping Polytechnic acts as a facilitator who provides academic and non-academic education for cadets (students).

In this case, the Surabaya Shipping Polytechnic must maintain and maintain the quality of education applied in the educational process starting from inputs, processes to outputs, namely by conducting evaluations through internal quality audit activities and external quality audits, because if the quality of education is not maintained, it will affect the output produced, namely graduates of the Surabaya Shipping Polytechnic. If the quality of

education is not in accordance with the established standards, the absorption of graduates by the maritime industry will not be able to achieve the set target of 80% of graduates absorbed in the maritime industry within  $\leq 1$  year starting after graduation. If Surabaya Shipping Polytechnic graduates are not absorbed by the maritime industry, the image of Surabaya Shipping Polytechnic graduates in the community will decrease, this causes public attraction/interest to continue their education or register as cadets at the Surabaya Shipping Polytechnic low or decrease.

To maintain *sustainability* at the Surabaya Shipping Polytechnic, good quality and educational credibility are needed and in accordance with standards, in this case it is necessary to evaluate and control the education system run at the Surabaya Shipping Polytechnic, namely by carrying out internal and external quality audits periodically, routinely and scheduled. Internal quality audit is an audit that determines the adequacy of the implementation of activities with the organization's own internal standards (internal quality standards), regulations, procedures, and work instructions to improve the quality of the institution and reduce the risk of achieving standards / decreases. Quality External quality audit is an audit activity carried out to determine the level of compliance with external standards (SPM, 2020 Edition).

This research is a replication of a study entitled "The Effect of Internal Quality Audit on Employee Work Productivity at the Bandung City Education Office with ISO 9001:2015 Standard". This study added 1 independent variable from the previous study, namely external quality audits and with different research objects, where the object of the previous study was employee work productivity, in this study the object of research was the *sustainability* of the Surabaya Shipping Polytechnic. In previous research, it was known that the results of the effect of internal quality audits on employee work productivity were positive and significant influences. Therefore, this study was conducted to find out and identify whether with the same variable and with 1 additional variable will still have a significant effect on different objects. In previous studies it was concluded that internal quality audits already reflect a fairly effective situation, this study examines whether internal and external quality audits show categories that are ineffective, effective enough, effective or can be very effective.

From previous research, it can be concluded that internal quality audit affects the results or achievements that have been determined, this research was conducted because considering the importance of *sustainability* for the Surabaya Shipping Polytechnic in the era of globalization with more and more competitors. The goal is to find out and identify whether the implementation of periodic quality audits, both internal and external, affects the sustainability of the Surabaya Shipping Polytechnic. If these two variables affect the sustainability of the Surabaya Shipping Polytechnic, then these two variables need to be evaluated and also monitored to improve the quality of its implementation, so that in the future internal and external quality audits are expected to be a reference or recommendation in an effort to maintain *sustainability* and improving the quality of education at the Surabaya Shipping Polytechnic. The method used in this study is quantitative research using multiple linear regression analysis methods. The data collection process is carried out by surveying employees of the Surabaya Shipping Polytechnic regarding internal and external quality audits at the Surabaya Shipping Polytechnic.

## **A. Theory Review**

### **1. Definition of Internal Quality Audit**

Internal quality audit is an audit conducted to determine the level of suitability of the implementation of activities against the organization's own internal standards (internal quality standards), regulations, procedures, work instructions, in order to improve institutional quality and reduce the risk of non-achievement of standards/decreased quality. Meanwhile, an external quality audit is an audit activity carried out to determine the level of conformity to external standards (SPM, 2020 Edition).

Internal quality audit is a systematic and independent inspection to ensure whether the implementation of SPMI is in accordance with the standards or vice versa. The evaluation was first carried out by structural officials in each higher education work unit in implementing the SPMI standard. After that, an internal quality audit at the office of each work unit in implementing the SPMI standard (**Mursid, 2020**).

Internal quality audit is an audit activity by the audit team determined based on the Rector's Decree, the implementation of the program is equipped with a quality policy book, quality standard book, quality manual and quality forms (Azhar, 2022).

An internal quality audit is a systematic, independent and documented testing process to ensure that activities are carried out according to procedures and the results are in accordance with standards to achieve institutional goals (Yolanda, 2020).

### **2. Definition of External Quality Audit**

External quality audit is also called the External Quality Assurance System (SPME). According to the SPME procedure, it can only be carried out after guaranteeing its internal agency. The government through its regulations and policies needs to continue to encourage study programs, supporting work units, faculties and school or university institutions to apply for quality assurance to cross-border (international) guarantee agencies. Several

international assurance agencies such as ISO may accept supporting work units and faculties to apply for external quality assurance (accreditation) to them. Several international quality assurance agencies that already have educational standards include the International Organization for Standardization (ISO) (Firdaus, 2021).

External quality audit is an audit conducted to determine the level of conformity to external standards. For example, audits conducted on document control officers, administrative officers, and technical officers (Yolanda, 2020).

### **3. Definition of Sustainability**

Sustainability has a broad understanding, sustainability has a sustainable meaning, but many experts state that there is a common perception between the notions of sustainability and sustainable development. According to Bruntland: sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Sukoharsono, 2021: 45 quoted from Bruntland, 1987).

Sustainability is how to build a society in which economic, social and ecological goals must be balanced (Sukoharsono, 2021:45 quoted from Szekely, 2005).

Sustainability(sustainability) is a balance between people-planet-profit, known as the concept of the Tripple Bottom Line (TBL), the company must be responsible for the positive or negative impacts it has on economic, social and environmental aspects (Sukoharsono, 2021: 46 quoted from Elkinkton , 1997:2).

Sustainability is a word taken from English namely, sustain which means continuous and ability which means ability. So, the word Sustainability can also be interpreted as sustainability in Indonesian. In the context of ecology itself, sustainability means that biological systems are still able to support biodiversity and unlimited productivity where this is achieved by means of human life not utilizing and exploiting natural resources so as to damage the ecology or ecological balance in the area. The term sustainability itself can be interpreted as a socio-ecological process which is marked by the attainment of the same ideals (Muliana, 2022:62).

## **II. METHODS**

### **A. Types of research**

Based on the main objectives described in the previous chapter, this research is a quantitative research in which in the process of achieving the research objectives, the data needed and collected are quantitative data. This study used a survey method, because this method is easier to apply and the data obtained is more valid and reliable because it uses several samples in the data collection process and the instruments used can be adjusted to research needs.

### **B. Population and Sample**

#### **1. Population**

Population is a generalization area consisting of objects/subjects that have certain quantities and characteristics determined by the researcher to be studied and then conclusions drawn, that is the definition of research. The population is not only people or living things, but also other natural objects. The population is also not just the amount that exists in the object or subject being studied, but includes all the characteristics, properties possessed by the object or subject. Even one person can be used as a population because one person has various characteristics such as speech style, discipline, personality, hobbies and so on(Sitoyo, 2015).

The population in this study is the work unit at the Surabaya Merchant Marine Polytechnic which is involved in carrying out internal and external quality audits, totaling 36 work units, with one representative from 29 work units, 2 people from 7 study programs and 7 people as leaders of the Sub work unit. . Finance Section, Sub, General Section, Sub. Academic Section, Sub. Youth Section, Research and Community Service Unit, Center for Youth Character Development, and the Business Development and Cooperation Division Unit, thus the total population in this study is 50 population.

#### **2. Sample**

The sample is part of the number and characteristics possessed by the population, or a small part of the population taken according to certain procedures so that it can represent the population. If the population is large, and it is impossible for the researcher to study everything in the population, this is due to limited funds or costs, manpower, and time, therefore researchers can use samples taken from the population. The sample to be taken from the population must be truly representative or representative (Sitoyo, 2015).

The sample of this research is using a saturated sample where the entire population is used as a sample, namely 50 samples. Retrieval of research subject data using the Google form link with a period of 1 week. Retrieval of research subject data using the Google form link with a period of 1 week.

### 3. Sampling technique

In this study the sampling technique used is non-probability sampling with purposive sampling technique. Non-probability sampling is a sampling technique that does not provide equal opportunities and opportunities for each element or participant in a predetermined population. Probability sampling has several techniques in determining the sample, one of which is saturated sampling, namely the technique of determining the sample if all members of the population will be sampled in the study or it can also be called a census in a small scope (Sugiyono, 2017). In this study determined several criteria that must be owned by the elements of the population to be used as sampling, namely as follows:

4. Work unit at the Surabaya Merchant Marine Polytechnic;
5. Representatives from each work unit involved in the implementation of internal and external quality audits.

### 4. Number of Samples

The sample in this study is a total of 50 samples which are work units at the Surabaya Merchant Marine Polytechnic with 1 person and 2 representatives from each work unit involved with internal and external quality audit activities at the Surabaya Merchant Marine Polytechnic. The timeframe for data collection is 1 week from 26 December 2022 to 30 December 2022.

### 5. Object of research

The objects in this study were internal quality audits (SPM) and external quality audits (BAN-PT, DJPL, and LRQA) at the Surabaya Merchant Marine Polytechnic which were used to measure their influence on the Sustainability of the Surabaya Merchant Marine Polytechnic.

## B. Types, Sources, and Data Collection Techniques

### 1. Data source

Sources of data in this study were employees of the Surabaya Merchant Marine Polytechnic and internal data where the data were internal and external quality audits, graduate data and data on the number of cadets enrolling at the Surabaya Merchant Marine Polytechnic.

### 2. Data Type

Data based on the source, based on the source, research data can be grouped into two types, namely primary data and secondary data:

1. Primary data is data obtained or collected by researchers directly from the data source. Primary data is also known as original data or new data that is up to date. To obtain primary data including observation, interviews, focused discussions and distribution of questionnaires.
2. Secondary data is data obtained or collected by researchers from various existing sources (researchers as second hand). Secondary data can be obtained from various sources such as the Central Bureau of Statistics (BPS), books, reports, journals, and others.

Data based on its nature, based on its form and nature, research data can be divided into two types, namely qualitative data (in the form of words/sentences) and quantitative data can be grouped based on how to get it, namely discrete and continuum data. Based on its nature, quantitative data consists of nominal data, ordinal data, interval data and ratio data (Sitoyo, 2015).

Based on the process or method of obtaining it, quantitative data can be grouped into two forms, namely as follows:

1. Discrete data, is data in the form of numbers obtained by counting;
2. Continuum data, is data in the form of numbers/numbers obtained based on measurement results. Continuum data can be in the form of integers or fractions depending on the type of measurement scale used.

Based on the type of measurement scale used, quantitative data can be grouped into four types (levels) that have different properties, namely:

1. Nominal data, often also called categories, namely data obtained by grouping objects based on certain categories;
2. Ordinal data, is data that comes from an object or category that has been arranged in stages according to size. Each ordinal data has a certain level which can be sorted from lowest to highest or vice versa;
3. Interval data, measurement data that can be sorted on the basis of certain criteria and shows all the characteristics of ordinal data;
4. Ratio data, data that collects all the properties of nominal data, ordinal data and interval data (Sitoyo, 2015).

### 3. Data collection technique

The most important research activity is data collection. Arranging the instrument is an important job in the research step, but collecting data is even more important, especially if the researcher uses a method that is prone to the inclusion of the researcher's subjective element. In data collection techniques there are several methods used are:

1. Collecting data through questionnaires or questionnaires;
2. Data collection through the interview method;
3. Collecting data through observation methods;
4. Data collection through the documentation method (Sitoyo, 2015).

The data collection technique in this study was to use primary data by distributing questionnaires, as well as the documentation method, namely data from internal and external quality audit results, graduate data and data on the number of applicants in the last 3 years, namely 2020, 2021, and 2022. Researchers will develop a questionnaire instrument related to internal, external and sustainability quality audits and validity and reliability tests will be carried out on the questionnaire instrument used.

### 4. Data analysis technique

Data analysis technique is a process of processing data into new information. This process is carried out with the aim that the characteristics of the data become easier to understand and useful as a solution to a problem. Especially those related to research. There are several methods and techniques for performing the analysis depending on the industry and the purpose of the analysis. All of these data analysis methods are mostly based on two types of data analysis techniques namely quantitative and qualitative data analysis in research (Wahyuningrum, 2022).

Data analysis is an activity carried out after all the data for research has been collected. At the time of data analysis, the things that were done were grouping data according to variables and types of respondents, tabulating data based on variables from all respondents, presenting data for each variable studied, performing calculations to answer the problem formulation, and performing calculations to test the proposed hypotheses. To statistically test the research hypothesis, multiple linear regression analysis is used, the multiple linear regression method is a statistical tool used to determine the effect of one or several variables on one variable, the benefits of multiple linear regression are more accurate analysis (Habibi, 2020).

Multiple linear regression was used in this study because it aims to determine the influence of the independent variable on the dependent variable by solving it using the SPSS 26 software application. SPSS is a computer program specially made to process data using certain statistical methods. SPSS as statistical software was first created in 1968 by three Stanford University students, namely Norman H. Nie, C. Hadlai Hull and Dale H. Bent (Santoso, 2020). In this case the independent variables are internal and external quality audits, while the dependent variable is the sustainability of the Surabaya Merchant Marine Polytechnic. The multiple linear regression equation is formulated as follows:  $Y = a + b_1X_1 + b_2X_2 + e$

Information:

$Y$  = Sustainability Surabaya Merchant Marine Polytechnic

$a$  = constant

$b_1b_2$  = regression coefficient

$e$  = confounding variable

$x_1$  = Internal quality audit

$x_2$  = External quality audit

## III. RESULTS AND DISCUSSION

### A. Variable Statistical Description

#### 1. Descriptive Analysis

The data collection method in this study is by distributing questionnaires to respondents. The object of this research is the employee of the Surabaya Merchant Marine Polytechnic. The questionnaire was sent with a filling link via Google form to 50 respondents, and the following questionnaire data was sent:

*Table 1. Results of Data Collection*

<i>Information</i>	<i>Amount</i>	<i>Percentage</i>
<i>Sent questionnaires</i>	<i>50</i>	<i>100%</i>
<i>Filled questionnaire</i>	<i>50</i>	<i>100%</i>
<i>Unfilled questionnaire</i>	<i>0</i>	<i>0%</i>
<i>Inappropriate questionnaire</i>	<i>0</i>	<i>0%</i>

**2. Characteristics of Respondents**

Respondent characteristics based on gender and age can be seen in the following table:

*Table 2. Characteristics of Respondent Data*

<i>No</i>	<i>Characteristics</i>	<i>Frequency</i>	<i>Percentage</i>
<i>1</i>	<i>Gender</i>		
	<i>Woman</i>	<i>32</i>	<i>64%</i>
	<i>Man</i>	<i>18</i>	<i>36%</i>
	<i>Total</i>	<i>50</i>	<i>100%</i>
<i>2</i>	<i>Age</i>		
	<i>21-25 years</i>	<i>4</i>	<i>8%</i>
	<i>26-30 years</i>	<i>16</i>	<i>32%</i>
	<i>31-35 years</i>	<i>20</i>	<i>40%</i>
	<i>36-40 years</i>	<i>8</i>	<i>16%</i>
	<i>41-45 years</i>	<i>2</i>	<i>4%</i>
	<i>Total</i>	<i>50</i>	<i>100%</i>

Based on Table 30 above, it can be seen that there are more female respondents (64%) than male respondents (36%). When viewed from the age of most of the Surabaya Merchant Marine Polytechnic employees aged 26-30 years (32%) and 31-35 years (40%).

**3. Descriptive statistics**

Descriptive statistical analysis is used to describe the state of the research variables statistically. This study uses the average value (mean), maximum value, minimum value and standard deviation to describe the statistical description of each variable. These descriptive statistics use the SPSS Statistics 26 application.

*Table 3. Research Variable Descriptive Statistics*

	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Means</i>	<i>std. Deviation</i>
<i>Sustainability(Y)</i>	50	46	30	26,54	2,435
<i>Internal Quality Audit (X1)</i>	50	46	60	53,54	4,500
<i>External Quality Audit (X2)</i>	50	46	65	58.90	5,733

From the results of the data analysis above, it can be concluded that the descriptives of each variable are as follows:

1. *Sustainability(Y)* has a minimum value of 23, which means that of all respondents who gave the lowest total assessment, the answer to sustainability is 23. The maximum value is 30, which means that of all respondents who gave the highest total assessment, the answer to sustainability is 30. The average value -the average sustainability score is 26.54, meaning that of all respondents who gave answers to sustainability, the average respondent gave a total rating of 26.54. While the standard deviation of 2.435 means that the size of the data spread from the sustainability variable is 2.435 from 50 respondents.
2. Internal quality audit (X1) has a minimum value of 46, which means that of all respondents who gave the lowest total assessment, the answer to the internal quality audit is 46. The maximum value is 60, which means that of all respondents who gave the highest total assessment, the answer to the quality audit The internal quality audit score is 60. The average value of the internal quality audit is 53.54, meaning that of all respondents who answered the internal quality audit, the average respondent gave an assessment of 49.20. While the standard deviation of 4.233 means that the size of the data spread from the internal quality audit variable is 4.233 out of 50 respondents.
3. External quality audit (X2) has a minimum value of 46, which means that of all respondents who gave the lowest total rating, the answer to the external quality audit is 46. The maximum value is 65, which means that of all respondents who gave the highest rating, the answer to the external quality audit is equal to 65. The average value of the external quality audit is 58.90 meaning that of all respondents who gave answers to the external quality audit, the average respondent gave a total rating of 58.90. Meanwhile, the standard deviation of 5.733 means that the size of the data spread from the external quality audit variable is 5.733 out of 50 respondents.

**4. Validity Test Results**

Before the questionnaire was used on the research sample, a tryout was first carried out to find out whether the research instrument could be used to measure research variables or not. The trial uses validity and reliability tests. The results of the validity test for the sustainability variable can be seen in the table below. In determining the r table, what is done is to use the formula  $df = (N-2)$ , where *df* is the degree of freedom and *N* is the number of samples, in this study there are 50 samples, so the value of *df* is 48, after finding the value of *df*, what must be done is to look at table r for and determine a significance level of 5% or 0.05 for a two-tailed test. From the table it can be determined that the value of r table for 50 samples with a significance level of 5% is 0.2787.

*Table 4. Validity Test Results*

<i>Variable</i>	<i>Items</i>	<i>corrected item-total correlation</i>	<i>r Table</i>	<i>Information</i>
<i>Sustainability(Y)</i>	<i>Y. 1</i>	0.595	0.2787	<i>Valid</i>

<i>Variable</i>	<i>Items</i>	<i>corrected item-total correlation</i>	<i>r Table</i>	<i>Information</i>
	Y.2	0.821	0.2787	Valid
	Y.3	0.723	0.2787	Valid
	Y.4	0.808	0.2787	Valid
	Y.5	0.693	0.2787	Valid
	Y.6	0.738	0.2787	Valid
<i>Internal Quality Audit (X1)</i>	X1.1	0.559	0.2787	Valid
	X1.2	0.613	0.2787	Valid
	X1.3	0.740	0.2787	Valid
	X1.4	0.574	0.2787	Valid
	X1.5	0.781	0.2787	Valid
	X1.6	0.688	0.2787	Valid
	X1.7	0.706	0.2787	Valid
	X1.8	0.527	0.2787	Valid
	X1.9	0.750	0.2787	Valid
	X1.10	0.619	0.2787	Valid
	X1.11	0.732	0.2787	Valid
	X1.12	0.752	0.2787	Valid
<i>External Quality Audit (X2)</i>	X2.1	0.853	0.2787	Valid
	X2.2	0.845	0.2787	Valid
	X2.3	0.794	0.2787	Valid
<i>External Quality Audit (X2)</i>	X2.4	0.694	0.2787	Valid
	X2.5	0.620	0.2787	Valid

<i>Variable</i>	<i>Items</i>	<i>corrected item-total correlation</i>	<i>r Table</i>	<i>Information</i>
	X2.6	0.712	0.2787	Valid
	X2.7	0.862	0.2787	Valid
	X2.8	0.765	0.2787	Valid
	X2.9	0.842	0.2787	Valid
	X2.10	0.776	0.2787	Valid
	X2.11	0.878	0.2787	Valid
	X2.12	0.805	0.2787	Valid
	X2.13	0.774	0.2787	Valid

By looking at Table 32, it can be seen that the magnitude of the correlation coefficient of all the question items of the research variables. Based on the results of calculating the correlation coefficient, all questions have a significant Pearson correlation greater than r table, where r table is 0.2787 (r count > r table). Therefore it can be concluded that the questions can be used as further research instruments.

**5. Reliability Test Results**

Reliability test is a test to show how far a measuring device is reliable. In this study, reliability testing was carried out to determine whether the questionnaires distributed to respondents fulfilled the reliable requirements. A questionnaire can be said to be reliable if the Cronbach alpha value is greater than 0.6 or 60%. This reliability test uses the SPSS Statistics 26 application. The following are the results of the reliability test:

*Table 5. Reliability Test Results*

<i>Question Items</i>	<i>Cronbach's alpha</i>	<i>Information</i>
<i>Sustainability(Y)</i>	<i>0.814</i>	<i>Reliable</i>
<i>Internal Quality Audit (X1)</i>	<i>0.885</i>	<i>Reliable</i>
<i>External Quality Audit (X2)</i>	<i>0.941</i>	<i>Reliable</i>

Based on the results of the validity test as summarized in Table 33 above, it can be seen that the Cronbach's alpha value for each variable is greater than 0.6, so all the variables in this study, namely sustainability, internal quality audit, external quality audit, are reliable.

**C. Estimation Results and Proof of Hypotheses**

**1. Multiple Linear Regression Analysis**

Multiple regression models are used to test the effect of two or more independent variables on one dependent variable. Multiple linear regression tests in this study used the SPSS Statistics 26 application.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.073	3.040		1.998	.052
	TOTALX1	.229	.086	.424	2.659	.011
	TOTALX2	.139	.068	.328	2.055	.045

a. Dependent Variable: TOTALY

Figure 1. Multiple Linear Regression Analysis

Source: SPSS Linear Regression Version 26.00

Based on Table 39 above, the regression model obtained is as follows:  $Y = 6.073 + 0.229X1 + 0.139X2 + e$   
 From the regression equation above it can be explained as follows:

1. A constant of 6.073 indicates that if the independent variables (internal quality audit and external quality audit) are assumed to be unchanged (constant), then the value of Y (sustainability) is 6.073 units.
2. The coefficient of the internal quality audit variable (X1) is 0.229, meaning that for every increase in the internal quality audit variable by 1 unit, sustainability will increase by 0.229 units assuming other variables do not change or are constant.
3. The coefficient of the external quality audit variable (X2) is 0.139, meaning that for every increase in the external quality audit variable by 1 unit, sustainability will increase by 0.139 units assuming other variables do not change or are constant.

**2. T Test Results (Partial)**

Testing the hypothesis in this study using statistical tests t. The t test was carried out using the SPSS Statistics application Version 26. Before using SPSS, what must be done is to determine the t table value, where the t table value can be seen from the t table by determining a significance value of 5% or 0.05 for a two-way test. Where the value of df (degrees of freedom) is obtained from  $df = n - k$ , where n is the number of observations and k is the number of independent and dependent variables. The df value in this study is 47 with a significance level of 5%, so the t table value is 2.012 (seen from the t distribution table). Based on Table 21 below, the results of this study can be explained as follows:

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.073	3.040		1.998	.052
	TOTALX1	.229	.086	.424	2.659	.011
	TOTALX2	.139	.068	.328	2.055	.045

a. Dependent Variable: TOTALY

Figure 2. T test results

Source: SPSS Linear Regression Version 26.00

From Table 21. The results of the T test, the significance value of variable X1 is 0.011 and variable X2 is 0.045, and the calculated t value for variable X1 is 2.659 and X2 is 2.055.

**a. Hypothesis Test Results 1**

Data from Table 40. The results of the T test give the result that the variable (X1) which is an internal quality audit has a significant value of  $0.011 < 0.05$  and a calculated t value of  $2.659 > t$  table of 2.012. These results indicate that the internal quality audit has a positive and significant effect because the significant value is  $< 0.05$ . Based on this explanation,  $H_a$  is accepted and  $H_o$  is rejected.

**b. Hypothesis Test Results 2**

Data from Table 40. The results of the T test give the result that the variable (X2) which is an external quality audit has a significant value of  $0.045 < 0.05$  and a calculated t value of  $2.055 > t$  table of 2.012. These results indicate that the external quality audit has a positive and significant effect because the significant value is  $< 0.05$ . Based on this explanation,  $H_a$  is accepted and  $H_o$  is rejected.

**3. F Test Results (Simultaneous)**

Testing the hypothesis in this study used the F statistical test. The F test was carried out using the SPSS Statistics application Version 26. The way to determine f table is  $f_{table} = k; n - k$ , where "k" is the number of independent variables and "n" is the number of respondents or research samples. In this study  $k = 2$  and  $n = 50$ , it was obtained nikai f table (2; 48) with a significance level of 5%, namely 3.19 (seen from the distribution table f). The results of the F test can be seen in the following table:

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	144.710	2	72.355	23.339	.000 <sup>b</sup>
	Residual	145.710	47	3.100		
	Total	290.420	49			

a. Dependent Variable: TOTALY  
b. Predictors: (Constant), TOTALX2, TOTALX1

*Table 3. F test results*

*Source: SPSS Linear Regression Version 26.00*

Based on the F test table above, it can be seen that the significant value obtained from internal quality audit testing and external quality audit simultaneously is 0.000 with f count 23.339.

**a. Hypothesis Test Results 3**

Data from Table 22. The F test results show that the variable (X1) which is an internal quality audit and variable (X2) which is an external quality audit has a significant value of  $0.000 < 0.05$  and also f count  $23.339 > 3.19$ . Based on this explanation,  $H_a$  is accepted and  $H_o$  is rejected.

**D. Interpretation of Results and Discussion**

**1. Effect of Internal Quality Audit on the sustainability of the Surabaya Merchant Marine Polytechnic**

The results of testing the first hypothesis of internal quality audit have a positive effect on the sustainability of the Surabaya Merchant Marine Polytechnic, so that the first hypothesis (H1) is accepted. This is because the effect of internal quality audits on the sustainability of the Surabaya Merchant Marine Polytechnic has a significant value of less than 0.05, which is 0.011. A positive coefficient value of 0.229 also supports that internal quality audits have a positive effect on the sustainability of the Surabaya Merchant Marine Polytechnic. This shows that if the internal quality audit increases, the sustainability of the Surabaya Merchant Marine Polytechnic will also increase, conversely if the internal quality audit decreases, the sustainability of the Surabaya Merchant Marine Polytechnic will also decrease.

The first hypothesis is accepted, supported because the internal quality audit is scheduled once a year. Internal quality audits can be carried out properly and effectively because of the support and participation of Surabaya Merchant Marine Polytechnic employees as members of each work unit being audited, this support is by providing the complete documents needed by the auditor team and not complicating the audit process.

The positive response of the Surabaya Merchant Marine Polytechnic employees to the internal quality audit was because the employees had understood the importance of internal quality audits for improving and improving quality within the Surabaya Merchant Marine Polytechnic environment.

**2. Effect of External Quality Audit on the sustainability of the Surabaya Merchant Marine Polytechnic**

The results of testing the second hypothesis that external quality audit has a positive effect on the sustainability of the Surabaya Merchant Marine Polytechnic, so that the second hypothesis (H2) is accepted. This is because the effect of external quality audits on the sustainability of the Surabaya Merchant Marine Polytechnic has a significant value of less than 0.05, which is 0.045. A positive coefficient value of 0.139 also supports that external quality audits have a positive effect on the sustainability of the Surabaya Merchant Marine Polytechnic. This shows that if the external quality audit increases, the sustainability of the Surabaya Merchant Marine

Polytechnic will also increase, conversely if the external quality audit decreases, the sustainability of the Surabaya Merchant Marine Polytechnic will also decrease.

The second hypothesis is accepted because the Surabaya Merchant Marine Polytechnic understands the importance of external quality audits by BAN-PT as a higher education and study program accreditation certification body, where accreditation status will be taken into consideration for people interested in registering at the Surabaya Merchant Marine Polytechnic. And also an audit by DGPL is important for the Surabaya Merchant Marine Polytechnic to obtain permission to organize seafarer skills training and to issue seafarer competency certificates. As well as an audit by LRQA as an ISO 9001: 2015 certification body regarding quality management standards, which is currently a matter of concern and consideration for stakeholders and stakeholders to collaborate with the Surabaya Merchant Marine Polytechnic.

### **3. The Effect of Simultaneous Internal and External Quality Audits on the Sustainability of the Surabaya Merchant Marine Polytechnic**

The results of testing the third hypothesis of internal quality audit and external quality audit simultaneously have a positive effect on the sustainability of the Surabaya Merchant Marine Polytechnic, so that the third hypothesis (H3) is accepted. This is because the effect of external quality audits on the sustainability of the Surabaya Merchant Marine Polytechnic has a significant value of less than 0.05, which is 0.000. This shows that if the internal quality audit and external quality audit simultaneously increase, the sustainability of the Surabaya Merchant Marine Polytechnic will also increase, conversely if the internal quality audit and external quality audit simultaneously decrease, the sustainability of the Surabaya Merchant Marine Polytechnic will also decrease.

The third hypothesis is accepted because it is supported by internal and external quality audits, both of which have an influence on the development and improvement of quality at the Surabaya Merchant Marine Polytechnic.

## **IV. CONCLUSION**

Based on the research findings and hypothesis testing that has been carried out, the research results show that:

1. Internal quality audit has a positive and significant effect on the sustainability of the Surabaya Merchant Marine Polytechnic. These results may indicate that internal quality audits have been carried out routinely and scheduled annually and have also been properly systemized.
2. External quality audit has a positive and significant impact on the sustainability of the Surabaya Merchant Marine Polytechnic. This may indicate that the need for external quality audits by certification bodies is increasing in line with the need to improve the quality and image of organizations within the community.
3. Internal and external quality audits simultaneously have a positive and significant influence on the sustainability of the Surabaya Merchant Marine Polytechnic.
4. From the results of the t test, it was obtained that the Beta ( $\beta$ ) value for variable X1 was 0.424 and for variable X2 was 0.328. It can be concluded that variable X1 or internal quality audit has a dominant influence on the sustainability of the Surabaya Merchant Marine Polytechnic because the Beta ( $\beta$ ) value is greater than variable X2 or external quality audit.

### **A. Suggestion**

From the results of the research conclusions described above, suggestions can be given, namely:

1. For companies, it is better to focus on improving the quality and quality of education provided to produce graduates who are competent according to the expectations of stakeholders.
2. For future researchers, it is suggested that the scope of research can be expanded by involving stakeholders and stakeholders. In addition, the range of observations can be extended to obtain more comprehensive results. Indicators on the internal quality audit variable can be added to the competence of internal and external quality auditors at institutions/organizations, and indicators on the sustainability variable can be added to educational outcomes.

### **B. Limitations**

This research is not perfect and still has limitations in it, namely:

1. This research was only conducted focusing on the internal parties of the Surabaya Merchant Marine Polytechnic.
2. The observation period spans only 5 months, namely from September 2022 to January 2023.
3. The value of the coefficient of determination is still quite low, namely 49.8%, thus indicating that there are still indicators and variables outside of this study that can influence it.

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