



# The Effect of Asset Inventory System Utilisation on Learning Motivation of West Sumatra Sailing Polytechnic Cadets

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**Abstract.** Learning in class is not optimal and continues to hinder the lecture process. Lack of leadership often delays learning and even causes classrooms to be moved to find suitable spaces. The purpose of this research is to use the Poltekel Asset Inventory System. This type of research uses a quantitative descriptive method in the form of correlation, which aims to find the relationship or influence of a variable on other causal variables. The results of using the application based on a percentage of 67% of cadets' understanding of the use of the West Sumatra Poltekel Inventory System Application (SIAP) are still classified as moderate, the respondent's motivation level is 69%, and it can be said that cadets' learning motivation is still in the medium category. The Poltekel Asset Inventory System (Correlation The use of SIAP) with the learning motivation of cadets has a correlation value of 0.399, which is at a low level or a weak category. **Keywords:** Inventory, Asset Inventory System, Learning Motivation

## 1. Introduction

The Transportation Human Resources Development Agency, which provides types of services for the formation and improvement of HR competencies in the shipping sector, cannot be separated from the need for productive individuals who work as drivers of an organisation, be it in an institution or company that has asset management so that it must be trained and developed its competencies (Soelton et al., 2021; Stević & Brković, 2020; Zhang & Chen, 2023). Asset management must be made a well-documented governance. Asset inventory management starts from planning, realisation, utilisation/use, reporting and accountability, which must be provided as the responsibility of the power of goods users in managing assets according to the development of science and technology (Love & Matthews, 2019; Nanda et al., 2021; Palmié et al., 2020). One of the essential facilities and infrastructure development policies in official schools under the guidance of BPSDMP is the provision of facilities, which include office building facilities, dormitory facilities, classroom building facilities, lab/simulator facilities, official employee housing facilities, dining hall building facilities, sports hall facilities, house of worship facilities and other facilities to support the implementation of services to the community in terms of education and training activities.

The availability of complete infrastructure and facilities at the West Sumatra Polytechnic and the existence of education and training activities both from the aspect of

providing and providing services, the management of state property administration data (BMN) at the West Sumatra Polytechnic must be regulated so that the problems that occur can be fully resolved in the present and future (Pambudi & Ulfa, 2024; Syafrawati et al., 2023).

One of the higher education institutions engaged in inventory management activities is the West Sumatra Shipping Polytechnic. The growing and complex management of state assets has not been supported by the ease and flexibility of management and monitoring that is easy to implement, so it must be adjusted to the development of science and technology so that its implementation can be managed more efficiently and accountably (Butt, 2020; Huseien & Shah, 2022). The asset management activities of the West Sumatra Pelayaran Polytechnic are essential, and an information system is needed to support and control all assets. However, until now, the asset naming system at the West Sumatra Pelayaran Polytechnic has not been able to display complete asset information, causing difficulties in identifying assets / spare items (Bahari, 2022), difficulties in the process of recapitulating asset information, and difficulties in the asset reporting process.

BMN management impacts the learning process on educational facilities and facilities that must be appropriately managed so that the implementation of lecture learning runs smoothly (Listina et al., 2022; Mahdi et al., 2023). Inventory of goods data using the Asset Management Information System at the West Sumatra Shipping Polytechnic. In addition to making it easier to identify inventory items, it also makes asset reports that will be input into the SIMAK BMN application and the manager's accountability of each room inventory list.

Based on a pre-survey that researchers conducted through the distribution of Google forms in March 2022 at the West Sumatra Shipping Polytechnic, the educational facilities that support implementing learning in the classroom are not optimal and are still an obstacle in the lecture process. Due to the lack of management, learning is often delayed, even moving classes to find properly available facilities.

The management of asset management developed by the West Sumatra Pelayaran Shipping Polytechnic called cadets have utilised the Poltekpel Asset Inventory System within one semester. This utilisation aims to facilitate the management of assets in the institution, which affects the learning motivation of cadets. Based on the description above, the researcher is interested in researching "The Effect of Utilisation of the Polytechnic Asset Inventory System Application (SIAP) on Learning Motivation of Cadets at the West Sumatra Shipping Polytechnic."

## **2. Research Method**

### **2.1 Type of Research**

This type of research uses quantitative descriptive methods in correlation to find the relationship or influence of an influence variable on other causal variables (Mehmood, 2021; Putra Tampi et al., 2022). According to (Möttus et al., 2020), "Descriptive research is research that aims to describe/explain something as it is at the

time of the research”. At the same time, correlational studies are “studies that try to find whether or not there is a relationship or affect how close the relationship is and whether the relationship is meaningful” (Amin et al., 2020). This research aims to influence the use of the Poltekpel Asset Inventory System in managing educational institutions and encourage cadets to study at the Sumbar Sailing Polytechnic.

## **2.2 Population and Sample**

The population of this study were active cadets of class 6 who used learning facilities in the new classroom building. The sample used in this study were 102 West Sumatra Polytechnic Batch 6 cadets of the Nautical and Nautical Technology Study Programme.

## **2.3 Data Collection Technique**

### **Instrument**

This research instrument is the researcher using a notebook, pen/pencil, observation guide, questionnaire or interview guide and camera as a supporting tool. (Sudaryono et al., 2019).

### **Data Collection**

I followed the selection of data collection methods that follow the problem being investigated and accelerate the achievement of predetermined research objectives. The questionnaire is a data collection technique used in this study (Putra Tampi et al., 2022).

## **2.4 Data Analysis Technique**

The technique explains the effect of utilising the Polytechnic Asset Inventory System Application in the Management of Learning Education Facilities with cadet learning motivation at the West Sumatra Shipping Polytechnic. Then, the data analysis is carried out with the following steps:

### **Descriptive Analysis**

Analysis of data processing received by respondents (Husband, 2020). This analysis aims to describe what was found in this study’s results, provide information based on what was obtained in the field, and calculate the percentage, mean, and standard deviation of the score.

### **Inductive Analysis**

#### **Normality Test**

The normality test is a statistical procedure used to evaluate whether data obtained from a sample or population follows a normal distribution (Yap & Sim,

2011). This is important because many parametric statistical methods assume the data is normally distributed.

### Linearity Tezt

The linearity test is a statistical procedure used to evaluate whether the relationship between two numerical variables (usually the independent and dependent variables) is linear (Charfeddine & Umlai, 2023). The primary purpose of the linearity test is to determine whether there is a linear relationship between the independent and dependent variables. If the relationship is not linear, then a linear regression model may not be appropriate, and an alternative regression model, such as non-linear regression, may be more appropriate.

### Hypotesis Test

Hypothesis testing is a statistical procedure used to test the truth or validity of a statement or assumption about the population based on data obtained from a sample (Keysers et al., 2020). The primary purpose of hypothesis testing is to decide whether a proposed claim or assumption can be accepted based on the available statistical evidence or whether the claim should be rejected.

## 3. Result and Discussion

### 3.1 Utilisation of the Merchant Marine Polytechnic of West Sumatera

Data on the Poltekpel Asset Inventory System Application Utilisation variable (SIAP) (X) was obtained through a questionnaire and given to 102 respondents. Basic statistical testing of variable X research results can be seen in Table 1 below:

Table 1.  
Statistics of Research Results Variable X

Statistics		
X		
N	Valid	102
	Missing	0
	Mean	26.71
	Median	27.00.00
	Mode	29
	Std. Deviation	4.458
	Minimum	15
	Maximum	37
	Sum	2724

Based on the results of data processing, it is known that the distribution of response scores varies from the lowest score of 15 to the highest score of 37, the average (mean) is 26.71, the middle (median) is 27.00, the score that often occurs (state) is 29,

and the standard deviation (SD) is 4.458. The total score (number) is 2724. To get a clear picture of the distribution of variable scores using the Poltekpel Asset Inventory System Application (SIAP) (X) can be seen in the table below:

Table 2.  
Frequency Distribution of Variable X

Interval Class	Fo	%Fo
15 – 17	3	2,94
18 – 20	5	4,90
21 – 23	20	19,61
24 – 26	21	20,59
27 – 29	25	24,51
30 – 32	20	19,61
33 – 35	5	4,90
36 – 38	3	2,94
<b>Total</b>	<b>102</b>	<b>100</b>

Table 2 above shows that the highest frequency level of respondents' answers is in the interval class 24-26, with a frequency of 21 cadets (20.59%). A clearer picture of the frequency distribution of the Polytechnic Asset Inventory System Application Utilisation variable (SIAP) is presented in Figure 1 histogram below.

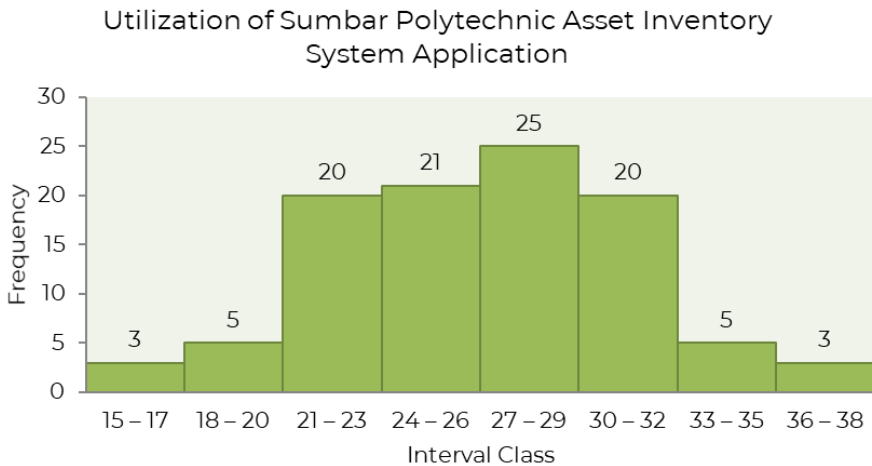


Figure 1. Histogram Pemanfaatan Aplikasi Sistem Inventaris Aset Poltekpel

The average level of achievement of respondents on the variable score of the Utilisation of the Sumbar Polytechnic Asset Inventory System Application can be used by using the percentage formula as follows, and the results are obtained:

$$\text{Percentage TPR} = \frac{\text{Score Acquisition}}{\text{Number of Ideal Highest Scores}} \times 100\% = \frac{2.724}{5 \times 8 \times 102=4.080} \times 100\% = 67\%$$

Based on the percentage value of the cadet respondents' achievement level described above, it is obtained that the value of 67% is in the range of values from 65% to 79% in the moderate category. Thus, cadets' perception of using the Poltekpel Asset Inventory System Application (SIAP) is still in the medium category.

### 3.2 Learning Motivation (Y)

Cadets (X), variable data on learning motivation, were collected through questionnaires and given to 102 respondent cadets. The basic statistics of the research results of variable Y are as follows:

Table 3.  
Statistics of Research Results Variable Y

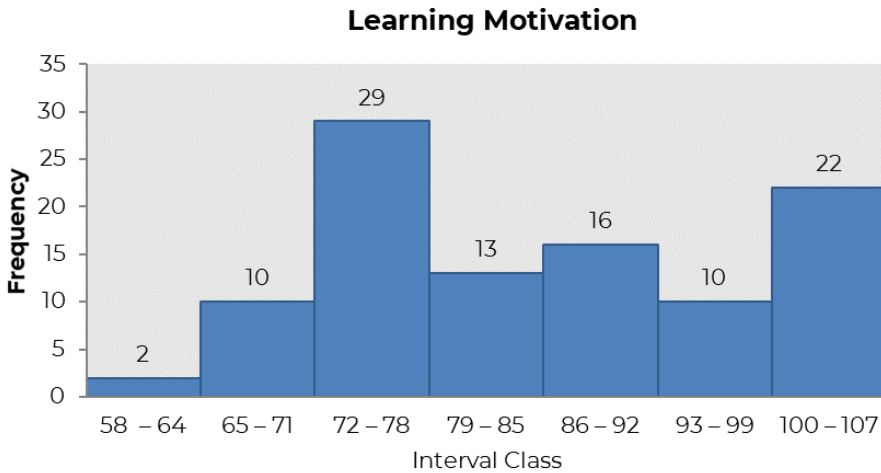
Statistics		
Y		
N	Valid	102
	Missing	0
Mean		86.41.00
Median		83.00.00
Mode		74 <sup>a</sup>
Std. Deviation		14.364
Minimum		58
Maximum		116
Sum		8814

From the results of the data above, it is known that the correspondence score is distributed from the lowest score of 58 to the highest score of 116, the average (mean) is 86.41, the average score (median) is 83.00, the resulting score. Often (mode) is 74, the standard deviation (SD) is 14.364, and the total score (sum) is 8814. To get a clear picture of the distribution of the results of the learning motivation variable (Y) can be seen in the table below:

Table 4.  
Frequency Distribution of Variable Y

Interval Class	Fo	%Fo
58 – 64	2	1,96
65 – 71	10	9,8
72 – 78	29	28,43
79 – 85	13	12,75
86 – 92	16	15,69
93 – 99	10	9,8
100 – 107	22	21,57
<b>Total</b>	<b>102</b>	<b>100</b>

Table 4 shows that the highest frequency level of respondents' answers is in the interval class 72 - 78, with a frequency of 29 cadets (28.43%). A clearer picture of the frequency distribution of learning motivation variables is presented in the histogram image below:



**Figure 2.** Histogram Motivasi Belajar

The average level of respondent achievement (TPR) of the variable score for the Utilisation of the Sumbar Polytechnic Asset Inventory System Application (SIAP) can be used with the following percentage formula; the results obtained are as follows:

$$Percentage\ TPR = \frac{Score\ Acquisition}{Number\ of\ Ideal\ Highest\ Scores} \times 100\% = \frac{8814}{5 \times 25 \times 102=12.750} \times 100\% = 69\%$$

### 3.3 Analysis Requirement Test

Therefore, two testing methods were used: the Komogorov-Smirnov test for normality and the Levene test for homogeneity.

#### Normality Test

Based on the Kolmogorov-Smirnov test of instrument test data to find out how your motivation level in learning after the use of the Poltekpel Asset Inventory System Application (SIAP) at the West Sumatra Shipping Polytechnic which was tested for normality at a significant level = 0.05 can be seen in the following table:

Table 5.  
Normality Test Analysis Results

One-Sample Kolmogorov-Smirnov Test			
		X	Y
N		102	102
Normal Parameters <sup>a,b</sup>	Mean	86.41.00	26.71
	Std. Deviation	14.364	4.458
Most Extreme Differences	Absolute	.146	.118
	Positive	.146	.072
	Negative	-.071	-.118
Test Statistic		.146	.118
Asymp. Sig. (2-tailed)		.120 <sup>c</sup>	.201 <sup>c</sup>
a. Test distribution is Normal.			

Table 5 shows that the normality test results with the Komogorov-Smirnov formula show that the Asymp. Sig. (2-tailed) score for variable X is 0.120, and for variable Y is 0.201. The score shows the number > 0.050, which means that the data is normally distributed and hypothesis analysis can be continued.

### Linearity Test

Linearity test, which can determine the linear relationship between research variables. SPSS was used to test the linearity of the data, i.e. through the Linearity Test at the 0.05 significance level. Two variables can have a linear relationship if the significance value of linearity is 0.05. The results of the linearity test of the research variables are presented in the following table:

Table 6.  
Linearity Analysis Results

ANOVA Table							
			Sum of Squares	df	Mean Square	F	Sig.
Y * X	Between Groups	(Combined)	987.119	34	29.033	1.907	.012
		Linearity	291.194	1	291.194	19.126	.000
		Deviation from Linearity	695.925	33	21.089	1.385	.000
	Within Groups		1.020.057	67	15.225		
	Total		2.007.176	101			

Table 6 Linearity Test Results Based on the results obtained that the significance value in linearity is 0.000 < 0.050, it can be concluded that the variable Utilisation of Poltekpel Asset Inventory System Application (SIAP) with learning motivation is linear.

### Hypothesis Test

The correlation test is one of the statistical tests used to determine the closeness of the relationship between the independent variable and the dependent variable. The results obtained after SPSS testing are interpreted so that it is known whether the data tested



for correlation has a relationship or not. The correlation test is a statistical test that only aims to determine whether there is a relationship between the variable use of the Polytechnic Asset Inventory System (SIAP) application and cadet learning motivation. The results of the correlation data analysis using the Pearson correlation formula are as follows:

Table 7.  
Pearson Correlation Results Hypothesis Test

Correlations			
		X	Y
X	Pearson Correlation	1	.381**
	Sig. (2-tailed)		.000
	N	102	102
Y	Pearson Correlation	.381**	1
	Sig. (2-tailed)	.000	
	N	102	102

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Based on data analysis, an r-score of 0.381 was obtained. This score is included in the low correlation score category (weak), with a correlation range of 0.200 to 0.399. Testing the correlation coefficient to prove the hypothesis is indicated by the personal correlation significance value of 0.000. Kajlt this score of 0.050, so it can be concluded that the hypothesis put forward is that there is a relationship between the use of the Poltekpel Asset Inventory System in the management of educational institutions and the learning motivation of cadets at the Sumbar Sailing Polytechnic. However, the current correlation value is in the low or weak category.

#### 4. Conclusion

It can be seen from the data analysis and testing of the hypothesis that the following conclusions are obtained: application utilisation based on the percentage of achievement level obtained a percentage of 67% of cadets' perceptions about the utilisation of the Poltekpel Asset Inventory System Application (SIAP) is still in the medium category. The motivation of the respondents' achievement level obtained a percentage of 69%, and it can be said that the cadets' learning motivation is still in the medium category. The relationship between utilising the Polytechnic Asset Inventory System Application (SIAP) in the Management of Learning Education Facilities with the cadet learning motivation correlation value of 0.399 is categorised as low or weak.

This study's results indicate that using the Poltekpel Asset Inventory System application in inventorying and maintaining learning facility assets at the West Sumatra Shipping Polytechnic helps the smooth lecture process. This research implies that the polytechnic asset inventory system can be applied in the management and responsibility of each room. The teaching and learning process is more active with complete facilities, and cadets are always encouraged to be more active in maintaining the facil-

ities provided by the campus. They feel challenged to be responsible and feel a sense of solidarity and care with fellow classrooms responsible for each room.

The results of the study can suggest several things, including: with the results of the above conclusions, it is hoped that the asset manager is advised to further socialise the Poltekpel Asset Inventory System application to the person in charge of classroom facilities regarding using and maintaining assets by applicable regulations and management. It is hoped that the campus can make technical regulations contained in the director's decision regarding this application so that it runs properly. Hopefully, this research can later be used as a service to agencies with goods management. Researchers suggest that the application of the Poltekpel Asset Inventory System (SIAP) application can run on the management of other facility assets within the West Sumatra Shipping Polytechnic campus so that this will create excellent, clean, orderly and targeted services in the procurement and accountability of sustainable assets by the needs.

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