

## Analysis of the Effectiveness of Services and Governance of Heavy Equipment Lending at the UPTD Heavy Equipment and Laboratory of West Sumbawa Regency

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### Abstract

*This research aims to describe the form of heavy equipment lending services and the governance of heavy equipment lending at the UPTD Heavy Equipment and Laboratory of West Sumbawa Regency, as well as analyzing both in depth. This research uses the Mix Method, which combines quantitative and qualitative approaches. The research results show that there is a positive correlation of 0.228 between lending services and lending governance. However, this correlation is not statistically significant at the 95% confidence level, with a significance value of 0.108. Nevertheless, these findings show that improvements in service quality tend to be followed by improvements in lending governance, although this relationship is not yet significant. This research suggests the need to increase synergy between services and lending governance, as well as focus on improving service quality and strengthening more efficient lending governance. Optimizing these two aspects is expected to support improving the overall operational quality of UPTD.*

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## 1. INTRODUCTION

With a national commitment to accelerate infrastructure development, the West Sumbawa Regency Regional Government focuses on improving the quality and quantity of existing infrastructure, both through new construction and rehabilitation and maintenance of existing infrastructure. Apart from that, the regional government of West Sumbawa Regency to increase regional income has been regulated through regional regulation number 7 of 2023 concerning regional taxes and regional levies of West Sumbawa Regency. In an effort to achieve efficient and effective infrastructure development targets, the West Sumbawa Regency government has a main focus directed at infrastructure that has a direct and significant impact on the economy and community welfare, which includes transportation, irrigation and other public facilities.

Among various infrastructure sectors, road construction and maintenance occupy a priority position. Roads are the lifeblood of the economy that connect various regions, enable the mobility of goods and services, and facilitate public access to public services. Therefore, the quality and availability of a good road network is very crucial for regional progress. The West Sumbawa Regency Government realizes that adequate road infrastructure will improve connectivity, speed up trade flows, and reduce transportation costs. Road construction projects also include building bridges, repairing damaged roads, and increasing the capacity of existing roads. In addition, special attention is being paid to road construction in rural areas to ensure that all communities, including those living in remote areas, can enjoy the benefits of good infrastructure. Through these efforts, it is hoped that more equitable and inclusive economic development can be achieved.

Construction of road and bridge infrastructure requires adequate equipment, including

heavy equipment such as excavators, bulldozers, graders and cranes. This heavy equipment has an important role in various stages of construction, from land preparation, excavation, soil compaction, to installing road and bridge structures. Correct and efficient use of heavy equipment not only speeds up the construction process, but also ensures optimal quality of the final result. In West Sumbawa Regency, demand for heavy equipment is increasing along with the intensification of infrastructure projects. Apart from that, the presence of adequate heavy equipment also supports routine maintenance activities and repairs to existing infrastructure. Therefore, good heavy equipment management is the key to ensuring that development projects can run according to the predetermined schedule and budget.

However, heavy equipment management at the West Sumbawa Regency Heavy Equipment and Laboratory UPTD still faces various challenges. Problems such as lack of routine maintenance, suboptimal inventory management, and inefficient borrowing procedures often hamper the performance and effective use of heavy equipment. As a result, infrastructure development projects become hampered, both in terms of time and cost. Lack of a good maintenance system can cause heavy equipment to fail more quickly, resulting in high repair costs and long downtime. Additionally, poor inventory management can result in the unavailability of necessary heavy equipment at the right time. Inefficient lending procedures can also slow down the heavy equipment procurement process for important projects. Therefore, this research aims to analyze the service and governance of heavy equipment lending at the West Sumbawa Regency Heavy Equipment and Laboratory UPTD, as well as provide recommendations for necessary improvements.

Furthermore, the West Sumbawa Regency Heavy Equipment and Laboratory Regional Technical Implementation Unit (UPTD) has a very important role in supporting various infrastructure development projects. The West Sumbawa Regency heavy equipment and laboratory UPTD is the implementing element to support the operations of the Public Works and Planning Department. The existence of this UPTD is very vital in providing heavy equipment needed for implementing development projects, both large and small scale. However, the heavy equipment lending service and governance system currently implemented still faces various obstacles that hamper its operational efficiency and effectiveness.

## 2. RESEARCH METHOD

This research was carried out at the West Sumbawa Regency Heavy Equipment and Laboratory UPTD for six months. The selection of this location was based on its relevance to the research topic which examines the effectiveness of service and governance of heavy equipment lending. This research uses a mixed methods approach, which combines quantitative and qualitative methods to obtain a comprehensive understanding. Analysis *mix method* is the analysis used in research to answer the research formulation and objectives. This research is a descriptive study that combines a Mixed Method Research approach in its implementation (Creswell, 2016). Quantitative methods are used to measure user satisfaction with services, especially regarding service effectiveness, compliance with SOPs, and transparency of governance. Quantitative data was collected through questionnaires distributed to UPTD service users. On the other hand, qualitative methods were used for in-depth interviews with UPTD employees and several service users, and for direct observation of the heavy equipment lending process.

This research collected two types of data, namely quantitative and qualitative data. Quantitative data is in the form of numerical information from questionnaires, while qualitative data is in the form of descriptive insights from interviews and observations. Primary data was obtained directly from respondents, namely service users and employees

involved in the lending process. In addition, secondary data was collected from official documents, UPTD annual reports, SOPs, and relevant literature. The research population consists of service users who have utilized heavy equipment lending services, as well as UPTD employees who are involved in governance. Samples were taken using the purposive sampling method for employees and random sampling for service users.

Data collection was carried out through distributing questionnaires, interviews and direct observation. The main instrument in this research is a questionnaire designed using a 1-5 Likert scale, with rating categories from "Very Satisfied" to "Very Dissatisfied". The validity and reliability of the questionnaire were tested before use to ensure measurement accuracy. The collected data was analyzed quantitatively with descriptive and inferential statistics to test the relationship between variables. Meanwhile, qualitative data was analyzed through a process of data reduction, data presentation, and conclusion verification to gain an in-depth understanding of the factors that influence the effectiveness of services and governance at UPTD.

**Table 1.** Validity Test Results

No. Item	R <sub>hitung</sub>	R <sub>tabel</sub> 5% (25)	Sig.	Kriteria
1	0.498	0.396	0.002	Valid
2	0.602	0.396	0.001	Valid
3	0.731	0.396	0.000	Valid
4	0.658	0.396	0.003	Valid
5	0.498	0.396	0.002	Valid
6	0.505	0.396	0.002	Valid
7	0.664	0.396	0.000	Valid
8	0.498	0.396	0.001	Valid
9	0.602	0.396	0.001	Valid
10	0.680	0.396	0.000	Valid

Validity refers to a measure of how accurately a research instrument can measure the variables you want to study. If the instrument can reveal data on the variables studied accurately, then the instrument can be said to be valid (Subagyo, 1999). In this research, the validity of the questionnaire was measured using SPSS. Based on table 1 above, it can be concluded that as many as 10 questions with 25 respondents can be interpreted after analysis *pearsonon product* moment using SPSS v.26 that all question items are declared valid because of the r value<sub>table</sub> all question items are above 0.396% (r<sub>table</sub> 5% (n=25) and sig value. <.005 (valid).

**Table 2.** Reliability Test Results

Reliability Statistics	
Cronbach's Alpha	N of Items
.861	10

Based on the results of Cronbach's *alpha* in table 3.3 above it can be concluded that if coefficient mark *alpha Cronbach's* is > 0.60 then reliable. Up to 10 question items that have been tested with value *alpha Cronbach's* is 0.861 then it is Reliable.

### 3. RESEARCH RESULTS AND DISCUSSION

#### 1. Heavy equipment lending services at the UPTD Heavy Equipment and Laboratory of West Sumbawa Regency

This research assesses the effectiveness of heavy equipment lending services at the West Sumbawa Regency Heavy Equipment and Laboratory UPTD through descriptive statistical analysis. A total of 51 respondents gave their assessment of the existing service system. This assessment was carried out using a 1-5 Likert scale, with answer choices ranging from "Very Dissatisfied" (score 1) to "Very Satisfied" (score 5).

The results of the analysis show that the average level of respondent satisfaction with heavy equipment lending services is 2.9477 with a standard deviation of 0.85212. This average value is in the "Quite Satisfied" range, indicating that in general, respondents assess the services provided as quite adequate but there are still aspects that need to be improved. The minimum value obtained was 1.67, indicating that there were respondents who felt less satisfied, while the maximum value reached 5.00, indicating that there was high satisfaction among some respondents. The results of data analysis can be seen in the table below.

**Table 3.** Data Analysis of Heavy Equipment Lending Services

<b>Descriptive Statistics</b>					
	N	Minimum	Maximum	Mean	Std. Deviation
Analisis Pelayanan Peminjaman	51	1.67	5.00	2.9477	.85212
Valid N (listwise)	51				

The relatively moderate standard deviation shows quite significant variations in assessments among respondents, indicating the existence of different perceptions regarding service quality. This variation is important for the West Sumbawa Regency Heavy Equipment and Laboratory UPTD to pay attention to as a basis for identifying areas of improvement to improve service quality that is more consistent and meets overall user expectations.

The results of data analysis show that the average level of satisfaction of respondents with heavy equipment lending services is in the "Quite Satisfied" category, with an average value of 2.9477 and a standard deviation of 0.85212. This shows that although the services provided by UPTD Heavy Equipment and Laboratories have met most of the user's needs, there are still certain aspects that need to be improved. Based on literature on service management, the optimal level of customer satisfaction should approach or reach the "Satisfied" to "Very Satisfied" category to ensure the service provided is truly effective and efficient. Thus, UPTD needs to carry out a more in-depth evaluation of the existing service process, perhaps by improving communication flows, speeding up the service process, or providing additional training for officers to improve the quality of interactions with users.

Furthermore, based on in-depth interviews conducted with UPTD employees who are directly involved in the process of borrowing and managing heavy equipment. From interviews, it was revealed that one of the main challenges in the service process was limited resources; several employees stated that the loan process, even though it followed the SOP, often slowed down service times. This is caused by the minimal use of technology to automate certain processes.

In terms of transparency, employees admit that even though a recording system already exists, communication between the administration and users can still be improved. They feel that improving the quality of training for staff and developing a technology-based management system can help improve service efficiency while ensuring compliance with lending SOPs.

From the discussion of the research results above, it can be reaffirmed from the results of research conducted by Julyanti (2018) that there are five main dimensions that determine customer satisfaction in service, namely tangibility (physical aspects of service), reliability (service reliability), responsiveness (responsiveness), assurance (assurance/competence), and empathy (attention to customers). The optimal level of customer satisfaction should be in the "satisfied" to "very satisfied" category in each of these dimensions to reflect that the service provided is effective and efficient.

Research by Susanto & Parmenas (2021) regarding automation in business processes shows that the use of appropriate technology can speed up workflow and reduce human error. In the UPTD context, the use of technology to automate the heavy equipment loan administration process, such as digitizing the recording system and tracking equipment status, can reduce service time and increase user satisfaction. Further research by Utami, et al (2024) also supports that digitalization in public services not only increases efficiency but also increases transparency and accountability, which is in line with the need to improve communication and coordination between administration and users in UPTD.

## 2. Management of heavy equipment borrowing at the UPTD Heavy Equipment and Laboratories of West Sumbawa Regency

A descriptive analysis of the governance of heavy equipment lending at the West Sumbawa Regency Heavy Equipment and Laboratory UPTD was carried out to evaluate the effectiveness of the existing system. A total of 51 respondents participated in this research, with assessments carried out using a 1-5 Likert scale, where scale 1 means "Very Dissatisfied" and scale 5 means "Very Satisfied".

The results of the analysis show that the average respondent's assessment of heavy equipment lending governance is 3.9641. This average value shows that overall, respondents feel "Satisfied" with existing lending governance, approaching the "Very Satisfied" category. The minimum value recorded was 2.67, indicating that some respondents were less than satisfied with the governance, while the maximum value reached 5.00, indicating that there were respondents who were very satisfied. Analysis of heavy equipment loan data at the West Sumbawa Regency Heavy Equipment and Laboratory UPTD can be seen in the table below.

**Table 4.** Heavy equipment loan governance analysis data

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Analisis Tata Kelola Peminjaman	51	2.67	5.00	3.9641	.57957
Valid N (listwise)	51				

A standard deviation of 0.57957 indicates relatively low variation in assessments among respondents. This indicates that the perception of heavy equipment lending governance is quite consistent among respondents, with most giving an assessment that is around the average value. This consistency indicates that the governance implemented is quite effective, although there are some respondents who may have less than satisfactory experiences.

In the aspect of lending governance, this research found that the average level of satisfaction of respondents was in the "Satisfied" category with an average value of 3.9641 and a standard deviation of 0.57957. This shows that the management of heavy equipment lending at the Heavy Equipment and Laboratory UPTD is generally considered adequate by the majority of users. The low level of variation in assessments

also indicates that respondents' experience of governance is quite consistent, which is a positive indication for the stability and reliability of the governance system implemented. However, there is still room for improvement, especially in ensuring that this positive experience can be felt by all users without exception. Strengthening this governance aspect can be done through implementing a more effective monitoring system, as well as increasing transparency and accountability in the lending process.

Based on the results of interviews with UPTD employees who are directly involved in the process of borrowing and managing heavy equipment, internal views regarding compliance with SOPs and transparency of governance are revealed. The employee said that although the SOP had been strictly implemented, some procedures could still be simplified to increase efficiency. One of the main challenges is coordination between administrative units and the field, which is sometimes out of sync in terms of when to borrow and return heavy equipment. Employees also emphasized the importance of improving the monitoring system, both for heavy equipment use and equipment status reporting, which is currently still mostly done manually. It is hoped that the implementation of more modern technology can speed up the lending process and minimize the potential for errors.

In terms of transparency, employees admit that the existing recording system is good enough, but improvements in conveying information to users, especially related to equipment schedules and availability, are still needed. This transparency is important to avoid misunderstandings between users and the UPTD, as well as ensuring accountability in every lending process.

Documentation results show that UPTD has a clear and structured governance mechanism, with a loan procedure flow stipulated in the SOP. However, there are still several cases where delays in the loan approval process occur, especially when the volume of equipment requests increases. This results in longer lending queues, which impacts certain user satisfaction. In addition, manual recording in heavy equipment inventory management can be a potential source of errors or delays in updating data related to equipment status.

According to Sayuti, et al (2018) explain that good governance in the public sector includes the principles of transparency, accountability, responsiveness and efficiency. In the context of UPTD Heavy Equipment and Laboratories, the implementation of governance that is considered adequate by the majority of users shows that there are efforts to fulfill these principles. However, further improvements can still be made through simplifying procedures and increasing coordination between administrative units and the field.

According to Redjeki, et al (2024) explain that accountability is one of the key elements in ensuring good governance. In public services, transparency in the decision-making process and delivery of information is very important to build user trust. This research is in line with the views of UPTD employees who recognize that increasing transparency in terms of equipment schedules and availability will help avoid misunderstandings between users and UPTD. Further research by Widyatama, et al (2017) shows that effective transparency can encourage increased accountability and strengthen governance, especially in organizations that focus on public asset management.

### **1.Services and Management of heavy equipment lending at the Heavy Equipment and Laboratory UPTD of West Sumbawa Regency**

Based on the results of the correlation analysis presented in table 4.3 below, the relationship between Loan Service Analysis and Heavy Equipment Loan Governance



Analysis at the West Sumbawa Regency Heavy Equipment and Laboratory UPTD shows a positive correlation of 0.228. However, the significance value (Sig. 2-tailed) of 0.108 indicates that this relationship is not significant at the 95% confidence level ( $p > 0.05$ ).

**Table 5.** Analysis of Services and Governance of heavy equipment lending **Correlations**

		Analisis Pelayanan Peminjaman	Analisis Tata Kelola Peminjaman
Analisis Pelayanan Peminjaman	Pearson Correlation	1	.228
	Sig. (2-tailed)		.108
	N	51	51
Analisis Tata Kelola Peminjaman	Pearson Correlation	.228	1
	Sig. (2-tailed)	.108	
	N	51	51

This means that statistically, there is not sufficient evidence to state that there is a significant relationship between lending services and lending governance. However, the positive correlation shows that if the quality of lending services increases, lending governance tends to improve, although this relationship still requires further research to ascertain its significance.

The correlation between service and heavy equipment lending governance shows a positive relationship of 0.228, although it is not statistically significant at the 95% confidence level. This indicates that in general, improvements in service quality tend to be accompanied by improvements in governance, although this relationship is not strong enough to be considered significant. This finding is in line with the literature which states that service quality and governance are two interrelated components in creating an optimal user experience. However, the insignificance of these results also indicates that improvements in one aspect alone may not be enough to improve the entire system, so a more comprehensive approach is necessary. UPTD needs to consider synergistic interventions between service improvements and governance to achieve more optimal and significant results in managing heavy equipment loans.

Based on the results of descriptive analysis, the average level of satisfaction with heavy equipment lending services is in the "Quite Satisfied" category (mean = 2.9477) with a standard deviation indicating variations in assessments among respondents (Std. Dev. = 0.85212). This indicates that although the services provided by UPTD are adequate, there are still areas that require improvement to achieve higher effectiveness. On the other hand, heavy equipment lending governance shows more positive results with the average rating being in the "Satisfied" category (mean = 3.9641) and a low standard deviation (Std. Dev. = 0.57957), indicating consistent positive perception among respondents.

Even though both service and governance components show positive results, the correlation between the two is not statistically significant, with a Pearson correlation value of 0.228 and a significance value of 0.108 ( $p > 0.05$ ). This indicates that there is not a strong and significant relationship between service quality and governance, so that improvements in one aspect do not automatically have an impact on improving other aspects.

#### 4. CONCLUSION

1. The Relationship between Loan Services and Loan Governance. There is a positive correlation of 0.228 between lending services and lending governance. However, this correlation is not significant at the 95% confidence level, with a significance value of 0.108. This means that statistically there is not enough evidence to state that there is a significant relationship between these two variables.
2. Service Quality and Lending Governance. Although there is no statistically significant relationship, the results show that improvements in the quality of lending services have a tendency to improve the quality of lending governance. However, this increase needs to be supported by better management and more effective strategies.
3. The Importance of Improving Services and Governance. West Sumbawa Regency Heavy Equipment and Laboratory UPTD needs to focus on improving services and loan governance simultaneously. Improvements in these two aspects will have a positive impact on UPTD's overall operations.

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