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The Impact of E-Procurement Implementation, Procurement Officer Competency, And Internal Supervision on Execution of Goods and Services Procurement: a Case Study of the Provincial Government of North Sumatra

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ABSTRACT

This study aims to analyze the effect of E-Procurement Implementation, Procurement Officer Competence, and Internal Supervision on the Implementation of Procurement of Goods and Services in the North Sumatra Provincial Government. Using a quantitative approach with regression analysis, the study found that E-Procurement has a positive and statistically significant effect on increasing the effectiveness of procurement implementation, in line with the principles of good governance. Procurement Officer Competence shows a positive direction of influence on procurement implementation, although it is not statistically significant in this model. Interestingly, Internal Supervision shows a significant negative correlation with the effectiveness of procurement implementation, indicating that excessive supervision intensity has the potential to hinder the efficiency and effectiveness of the procurement process. This finding contradicts conventional expectations and suggests the need for a critical evaluation of the implementation of the supervision mechanism. The implications of this study highlight the importance of optimizing the E-Procurement system and reviewing the effectiveness of the internal supervision mechanism in the context of implementing procurement of goods and services in the North Sumatra Provincial Government.

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INTRODUCTION

A Government procurement of goods and services is a very important activity in realizing development. Viewed from various perspectives, Indonesia's progress cannot be separated from this activity. In the economic sector, the development of facilities and infrastructure to support economic growth is realized through the mechanism of government procurement of goods and services, including the provision of road facilities, bridges, telecommunications infrastructure, and others. In the social sector, government procurement of goods and services to improve health facilities, education, and poverty alleviation also helps overcome social problems. In order to accelerate the development process and spur economic growth,

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a timely and scheduled procurement process of goods and services is needed so that it accelerates the budget absorption process and has an impact on community welfare.

The activity has been carried out since 2003 referring to Presidential Decree Number 8 of 2006 concerning Guidelines for the Implementation of Government Procurement of Goods/Services which is the Fourth Amendment to Presidential Regulation Number 80 of 2003 which is currently regulated in Presidential Regulation Number 12 of 2021 concerning Government Procurement of Goods/Services, it is considered that in order to further increase transparency and competence in the procurement of government goods/services and to realize efficiency and effectiveness in the management of state finances which is deemed necessary to make improvements to the implementation of government procurement of goods/services.

In order to accelerate the procurement process of goods and services in the government sector, a new procurement system is needed to save time and costs in each procurement process of goods/services, so electronic procurement is implemented. Electronic procurement is organized through LPSE (Electronic Procurement Services) held by LKPP (Government Goods/Services Procurement Policy Agency) which involves Procurement Agents or as Non-Providers with Providers as executors of the work for the procurement.

Thus the availability of goods/services can be obtained at the best price and quality, easier and faster administrative processes and at lower costs, so that it will have an impact on improving public services (Damayanti, 2012). According to Udoyono (2012) also emphasized that e-procurement can be an instrument to reduce corruption because through e-procurement auctions become open so that more rational offers will emerge.

Transparency in budget management can increase public trust and reduce the risk of misuse or waste of budget. Thus, the study of the relationship between the implementation of e-procurement, the competence of procurement officers, the implementation of procurement of goods or services in preventing fraud becomes very important to be analyzed further. On the other hand, the competence of procurement officers is very important because they are responsible for carrying out the procurement process properly in accordance with applicable regulations. Their level of competence in understanding procurement techniques, using the e-procurement system, and ensuring compliance with regulations will greatly affect the quality of the implementation of procurement of goods or services.

Literature Review

Good Governance Theory (Good Governance Theory)

According to Agoes (2013) defines Good Governance as a way of government to regulate the relationship between committee tasks, the role of directors, stakeholders and other shareholders. A process carried out transparently to determine government goals, performance assessments and achievements is also called a clean and good government governance procedure. Government Regulation No. 101 Article 2d, Good Governance means that good governance applies and develops the principles of professionalism,

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transparency, accountability, democracy, quality of service, effectiveness, efficiency, supremacy of law and can be accepted by all levels of society.

According to Basu, et.al (2015) competency theory is a concept that emphasizes an individual's ability to complete tasks or achieve certain goals by using a combination of knowledge, skills, and attitudes. This theory is often used in the fields of education, training, and human resource development to ensure that someone has the skills that match the needs of a particular job or role. Competency theory is used to develop competency frameworks that help organizations recruit, assess, and train employees. By understanding the specific competency requirements for a job, organizations can ensure that employees have the right capacity to contribute effectively.

In the book Human Resource Planning and Development, Ramadhan (2023), it is explained that competence is a combination of traits, knowledge, skills and behaviors that are the basis for the emergence of the desired best performance. The competency approach defines competence as defining competencies that are associated with outstanding performance and links the culture of an organization to job performance. The competency approach tries to compile knowledge, skills and behaviors that are the basis for the realization of superior performance in the organization. In conclusion, competence is concerned with the readiness and ability to carry out a task, while performance is concerned with the real results of carrying out the task. The paradigm shift from the concept of skills to competencies has slowly but surely created very positive strategic implications for HR planning and management activities in any scope.

The Role of E-procurement.

Measurement of e-procurement implementation using IS Success Model Delone and Mclean, in Mudjahidin's research (2013) because there are variables that can measure the success of IS in assessing the implementation of information systems in it.

Presidential Regulation Number 12 of 2021, e-procurement is the procurement of goods or services carried out using information technology and electronic transactions in accordance with statutory provisions. E-procurement is the procurement of government goods or services whose implementation is carried out electronically based on the web/internet by utilizing communication and information technology facilities which include electronic public auctions organized by LPSE (LKPP, 2010).

The implementation of e-procurement is one part of financial management that must be implemented after the budget planning process is completed. In the process of implementing e-procurement, the problem that occurs is the auction schedule which is often too long due to various causes including the caution of the implementer of goods/services procurement in preparing the Own Estimated Price (HPS), delays in the announcement of providers due to objections from other providers, procurement documents that are too complicated so that many participants do not meet the requirements to participate in the auction, as well as requirements in submitting budget disbursement documents. This results in inefficiency in the management of economic resources by the government so that budget absorption is hampered.

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The government through the Government Goods/Services Procurement Policy Institute (LKPP) has formulated the rules for Government Goods/Services Procurement through e-procurement through Presidential Regulation No. 54 of 2010 until the current amendment. E-procurement regulations in the procurement of goods/services also exist in several other countries with the same principles, ethics, norms and objectives for the implementation of efficient, effective, open, competitive, transparent, fair and accountable procurement. The implementation of e-procurement of government goods and services procurement in its implementation has experienced deviations such as corruption, collusion, to unfair business competition, one of which is tender conspiracy, Geria (2018).

Competence of Procurement Officer

Implementation of Procurement of Goods and Services, Formation of Auction Committee and Technical Implementation Committee for Field/Work Results Inspection Committee by KPA is adjusted to the technical capabilities of the employees. Technical controllers who go to the field have competence in the field according to the procurement of goods to be implemented so that it can facilitate control in the implementation of Procurement of Goods and Services in the field. In the process of procurement of goods and services, the Auction Committee already has a Certificate of expertise in the field of Procurement of Goods and Services which shows its competence in the field of goods and services. So that in the implementation of procurement, each committee already knows its duties and obligations in accordance with Presidential Regulation Number 16 of 2018, Effendy (2012).

Human resources reflect the quality of effort given by a person in a certain time to produce goods and services. According to Mangkunegara (2015:49) human resource competence is competence related to knowledge, skills, abilities and personality characteristics that directly affect their performance.

In Presidential Regulation Number 12 of 2021 Article 12 paragraph (2) In addition to carrying out the duties as referred to in paragraph (1), the PPK carries out the task of delegating authority from the PA/KPA, including: a. taking actions that result in spending budget; and b. making and determining agreements with other parties within the limits of the established budget. (3) In the event that there is no determination of the PPK in the Procurement of Goods/Services that uses the budget from the APBD, the PA/KPA assigns the PPTK to carry out the duties of the PPK as referred to in paragraph (1) letters a to m. (4) The PPTK who carries out the duties of the PPK as referred to in paragraph (3) is required to meet the competency requirements of the PPK. The PPK as a procurement official has the authority to make contracts for the procurement of goods and services with providers of goods and services or implementers. In order to be appointed as a PPK, a PPK must meet the requirements, namely a certificate of procurement of goods and services. The Procurement Officer as the manager of the procurement of goods and services has the authority to make procurement contracts for goods and services with providers of goods and services or implementers.

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Implementation of Procurement of Goods or Services

Presidential Regulation Number 12 of 2021, e-procurement is the procurement of goods or services carried out using information technology and electronic transactions in accordance with statutory provisions. E-procurement is the procurement of government goods or services whose implementation is carried out electronically based on the web/internet by utilizing communication and information technology facilities which include electronic public auctions organized by LPSE (LKPP, 2010) Measurement of the implementation of e-procurement using the IS Success Model Delone and Mclean, in Mudjahidin's research (2013) because there are variables that can measure the success of IS in assessing the implementation of the information system in it. Existing variables.

In order to accelerate the development process and spur economic growth, a timely and scheduled procurement process of goods and services is needed so that it accelerates the budget absorption process and has an impact on community welfare. Hadisaputro (2012) argues that one of the aims of government spending policies is to increase the budget impact (multiplier effect) of each expenditure to be more effective and provide stimulus to the economy. In practice, budget implementation experiences various obstacles, one of the obstacles faced is budget absorption which tends to be low at the beginning of the year and accumulates at the end of the year (Muchsin & Noor, 2011). This is caused by the slow procurement process of goods and services (Heriyanto, 2012). In order to accelerate the implementation of development programs, on January 16, 2015, the President issued Presidential Instruction Number 1 of 2015 concerning the Acceleration of the Implementation of Government Procurement of Goods/Services.

The contract will be awarded by applying one of the criteria, namely the lowest tender price or the most economically advantageous tender. If the awarding criterion is the most economically advantageous, the contract giver must establish further criteria (in addition to price) on the basis of which the tender will be evaluated, for example quality, technical services, aesthetic and functional characteristics, operating costs, etc. The contract giver may cancel the procurement procedure (and decide not to award the contract to one of the tenderers), if it has a valid reason.

RESEARCH METHODS

This study uses a quantitative approach which uses data in the form of numbers or figures that are intended to determine the relationship between the causal pattern between two or more variables (Sugiyono, 2018). A study can calculate, explain and regulate an indication (Russiadi, 2013). This study discusses how much influence the implementation of e-procurement and the competence of procurement officials have on the implementation of goods and services.

The unit of analysis in this study is the regional apparatus organization (OPD) of the North Sumatra Provincial Government, especially the Procurement Officer Section. Population as a generalization area consisting of objects/subjects that have certain qualities and characteristics that have been determined by researchers to be studied and then

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conclusions are drawn Sugiyono (2018). The population in this study were all Non-Provider e-procurement users totaling 60 people.

This study uses data sources obtained through the distribution of questionnaires to the Procurement of Goods and Services Management Officers of the North Sumatra Provincial Government, especially at the Procurement of Goods and Services Bureau of the Regional Secretary of North Sumatra Province from 2019 to 2024.

The research variables are independent variables, namely the implementation of e-procurement, the competence of procurement officials and internal supervision of the dependent variable (implementation of procurement of goods and services). Operational definition is an indication of how a variable is measured operationally in the field. Operational definition should come from theoretical concepts and definitions or a combination of both that exist in the field.

The analysis was conducted using a descriptive method, which is a method of collecting data, grouping, and arranging it according to the analysis needs based on the problems faced and then comparing it with relevant theories so that a conclusion can be drawn by looking at the average (mean), standard deviation (standard deviation), and maximum minimum. The mean is used to estimate the average amount of pollution estimated from the sample. The standard deviation is used to assess the average spread of the sample. The maximum minimum is used to see the minimum and maximum values of the population, this needs to be done to see the overall picture of the samples that have been successfully collected and meet the requirements to be used as research samples.

RESULT

Description of Research Variables

This study processes tabulated data from a questionnaire consisting of 40 (forty) statements with descriptions of 10 statements for each variable. The statements given based on the variables must be filled by 30 respondents. Respondents' answers to the questionnaire have 10 alternative answers, namely:

1. Strongly Disagree - Score: 1
2. Very Strongly Disagree - Score: 2
3. Disagree - Score: 3
4. Slightly Disagree - Score: 4
5. Neutral/Undecided - Score: 5
6. Slightly Agree - Score: 6
7. Agree - Score: 7
8. Agree Approaching Strongly Agree - Score: 8
9. Very Strongly Agree - Score: 9
10. Extremely Strongly Agree - Score: 10

The following is an appendix that explains the percentage distribution of responses to each statement item that was submitted to research participants:

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Table 5. Responder's Answer to X1.1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Agree	1	3.3	3.3	3.3
	Agree Nearly Strongly Agree	6	20.0	20.0	23.3
	Very Very Agree	23	76.7	76.7	100.0
	Total	30	100.0	100.0	

From table 5 analysis of response data to question X1.1, it can be concluded that there is a strong tendency towards high agreement among respondents. A substantial majority, namely 76.7% (n=23), showed a very high level of agreement ("Strongly Agree"). Meanwhile, the proportion of respondents who showed a moderate level of agreement ("Agree Close to Strongly Agree") was recorded at 20.0% (n=6). A small portion of respondents, only 3.3% (n=1), showed a lower level of agreement ("Somewhat Agree"). Thus, it can be interpreted that there is a significant consensus among the group of respondents regarding the construct measured in question X1.1, with the vast majority showing strong affinity or support for the statement. This distribution of responses indicates a high level of acceptance or validation of the concept or idea proposed in question X1.1 among the participants of this study.

Table 6. Responder's Answer to X1.2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree Nearly Strongly Agree	5	16.7	16.7	16.7
	Very Very Agree	25	83.3	83.3	100.0
	Total	30	100.0	100.0	

Based on Table X1.2Responses to question X1.2 showed a strong trend toward high agreement, with a substantial majority (83.3%, n=25) selecting “Strongly Agree” and the remainder (16.7%, n=5) selecting “Agree Near Strongly Agree”. This indicates a significant level of affinity or support for the construct measured in question X1.2 among the respondent group.

Table 7. Responder's Answers to X1.3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Agree	4	13.3	13.3	13.3
	Agree Nearly Strongly Agree	7	23.3	23.3	36.7
	Very Very Agree	19	63.3	63.3	100.0
	Total	30	100.0	100.0	

Based on table 7, the distribution of responses to question X1.3 shows that the majority of respondents (63.3%, n=19) have the highest level of agreement ("Strongly Agree"). A significant number of other respondents (23.3%, n=7) showed moderate to high levels of agreement ("Agree Approaching Strongly Agree"), while a small portion (13.3%, n=4) showed a lower level of agreement ("Somewhat Agree"). Overall, these data indicate that there isstrong positive trendto the construct being measured, although with greater variation in responses than the previous question.

Table 8. Responder's Answers to X1.4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Agree	2	6.7	6.7	6.7

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	Agree Nearly Strongly Agree	8	26.7	26.7	33.3
	Very Very Agree	20	66.7	66.7	100.0
	Total	30	100.0	100.0	

Based on Table 8, Responses to question X1.4 are dominated by the highest level of agreement ("Strongly Agree") with a proportion of 66.7% (n=20). A number of respondents (26.7%, n=8) showed moderate to high levels of agreement ("Agree Close to Strongly Agree"), while a small number (6.7%, n=2) chose "Somewhat Agree". Overall, these data indicate a strong tendency of agreement towards the construct being measured, with the majority of respondents showing a high level of affinity.

Table 9. Responder's Answers to X1.5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Somewhat Agree	2	6.7	6.7	6.7
	Agree Nearly Strongly Agree	9	30.0	30.0	36.7
	Very Very Agree	19	63.3	63.3	100.0
	Total	30	100.0	100.0	

Based on Table 9 the response data to question X1.5 shows that the majority of respondents (63.3%, n=19) gave answers with the highest level of agreement ("Strongly Agree"). A significant number of respondents (30.0%, n=9) chose the category "Agree Approaching Strongly Agree", while a small number (6.7%, n=2) showed a lower level of agreement ("Somewhat Agree"). Overall, these findings indicate that there isdominant tendency of agreementtowards the construct measured in question X1.5 among participants.

Data Quality Test

In the context of quantitative research, validity testing is essential to evaluate the extent to which a measurement instrument accurately represents the theoretical construct to be measured. Thus, validity testing focuses on the instrument's ability to perform the expected measurement function. To ensure the empirical relevance of the statement items in the questionnaire addressed to respondents, item validity analysis was conducted by setting a threshold criterion for the corrected item-total correlation coefficient (>0.30) as an indicator of validity. Statement items that exceed this threshold value are considered valid and relevant to measure the factors that are the focus of the study. The comprehensive results of the validity test analysis are presented as follows:

Table 10. Validity Test Results of Implementation *E-Procurement*

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X1.1	83,7333	34,685	,583	,703
X1.2	83,5333	37,430	,530	,719
X1.3	84,2000	31,545	,563	,699
X1.4	84,0000	33,655	,536	,706
X1.5	84,0667	35,995	,357	,734
X1.6	84,1333	28,947	,693	,671
X1.7	84,3333	30,092	,567	,698
X1.8	83,3667	42,378	,038	,759

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X1.9	83.6333	42,930	,075	,781
X1.10	83,8000	39,821	,190	,752

Based on the item-total statistical analysis, it is seen that most of the statement items in the instrument have moderate to strong corrected item-total correlations, ranging from 0.357 to 0.693, indicating fairly good internal consistency. However, there are several items, namely X1.8 (0.038), X1.9 (0.075), and X1.10 (0.190), which show very low item-total correlations, even approaching zero. The deletion of these items with low correlations has the potential to increase the overall Cronbach's Alpha value of the instrument, as reflected in the "Cronbach's Alpha if Item Deleted" column which shows an increase in the alpha value if the items are deleted. Overall, the instrument shows reliability that can be improved by considering the deletion of items that do not contribute significantly to the internal consistency of the scale. The results of the validity test for the procurement officer competency variable are as follows:

Table 11. Validity Test ResultsCompetence of Procurement Officer

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X2.1	84,2667	29,168	,566	,700
X2.2	84,0667	31,306	,558	,710
X2.3	84,7333	28,823	,360	,736
X2.4	84,5333	28,395	,504	,706
X2.5	84,6000	31,766	,233	,752
X2.6	84,0667	31,306	,558	,710
X2.7	84,2000	31,269	,479	,716
X2.8	84,1333	30,326	,628	,700
X2.9	84,9333	27,789	,398	,731
X2.10	84,0667	34,892	,080	,762

Based on the statistical analysis of the item-total, it shows that most of the statement items in the instrument have moderate corrected item-total correlations, ranging from 0.360 to 0.628, indicating an acceptable level of internal consistency. However, there are two items, namely X2.5 (0.233) and X2.10 (0.080), which show low item-total correlations. Especially for item X2.10, the correlation is very weak, approaching zero. The implications of deleting these items on the reliability of the instrument, as measured by Cronbach's Alpha, vary. The deletion of item X2.5 is predicted to increase the Alpha value to 0.752, while the deletion of item X2.10 is predicted to result in a greater increase to 0.762. Overall, the reliability of the instrument can be improved by considering the deletion of items that have a low contribution to the internal consistency of the scale.

Table 12. Validity Test ResultsInternal Supervision

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X3.1	85,0000	30,000	,548	,777
X3.2	85,1333	30,257	,436	,786
X3.3	85,0667	30,271	,468	,783
X3.4	85,8667	23,154	,648	,761

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X3.5	85,0000	29,724	,453	,784
X3.6	85,2000	27,752	,573	,769
X3.7	85,1333	29,430	,531	,776
X3.8	84,9333	29,168	,555	,774
X3.9	85,4667	30,602	,320	,799
X3.10	85,2000	30,510	,307	,802

Based on the item-total statistical analysis, the majority of the statement items in the instrument showed moderate corrected item-total correlations, ranging from 0.436 to 0.648, indicating a fairly good level of internal consistency. However, there are two items, namely X3.9 (0.320) and X3.10 (0.307), which have lower item-total correlations, approaching the generally accepted minimum limit for item validity (often > 0.30). The implications of deleting these items on the reliability of the instrument, as measured by Cronbach's Alpha, show potential for improvement. The deletion of item X3.9 is predicted to increase the Alpha value to 0.799, and the deletion of item X3.10 is predicted to produce a greater increase to 0.802. Overall, although most items contribute positively to the reliability of the scale, consideration of deleting items X3.9 and X3.10 can improve the internal consistency of the instrument as a whole. The results of the validity test for the variable Implementation of Procurement of Goods and Services are as follows:

Table 13. Results of Validity Test of Procurement of Goods and Services

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Y1	83,2000	44,028	,555	,762
Y2	83,0000	46,276	,575	,767
Y3	83,6667	39,195	,625	,747
Y4	83,4667	41,637	,598	,753
Y5	83,5333	44,326	,413	,776
Y6	83,4000	46,662	,385	,779
Y7	83,0667	54,823	-,200	,836
Y8	83,2667	43,444	,581	,758
Y9	83,6000	37,352	,686	,736
Y10	83,8000	39,821	,499	,768

Based on the reliability statistics presented, the Cronbach's Alpha coefficient for the instrument consisting of 10 items is 0.799. This Alpha value significantly exceeds the conventional threshold of 0.70, which is generally considered an indicator of good to excellent reliability. Thus, it can be interpreted that this instrument has a high level of internal consistency, indicating that the items in it are closely related and collectively measure the same construct with a high level of reliability.

Classical Assumption Test

Evaluation of the normality of data or variable distribution is an important prerequisite in linear regression analysis to ensure the validity of the model. The assumption of normality of the model residuals needs to be met so that the resulting statistical inferences can be relied upon. The following are the results of normality testing carried out using graphical analysis through SPSS Statistics 25 software, which are presented below:

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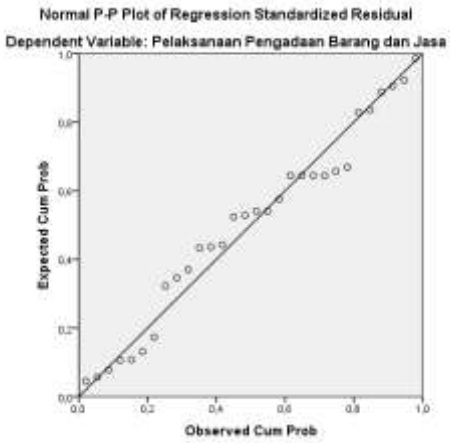

Figure 1. PP-Plot Normality Test

Based on the Normal PP Plot of Regression Standardized Residual for the dependent variable "Implementation of Procurement of Goods and Services", it can be observed thatThe data points are spread around and follow the diagonal line. The distribution pattern of the points approaching the diagonal line indicates that the standardized residual distribution of the regression model is close to a normal distribution. Although there are some small deviations from the straight line, it can be visually concluded that the assumption of normality of the residuals for this regression model tends to be met.

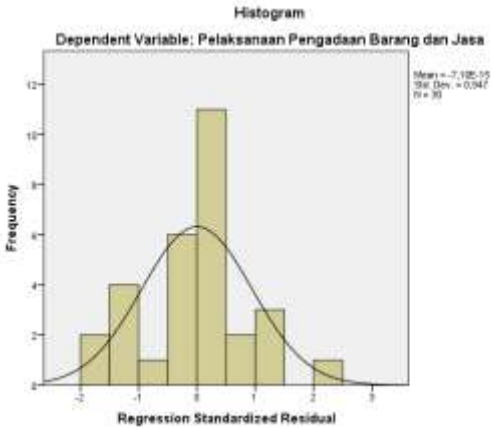

Figure 2. Histogram Normality Test

The histogram of standardized residuals for the dependent variable "Implementation of Procurement of Goods and Services" shows a frequency distribution of residuals that tends to form a bell-shaped curve, although there is a slight asymmetry. The mean residual value is very close to zero (Mean = -7.10E-15) indicating that the average model prediction error is close to zero, which is a good indicator. The standard deviation of the residuals is 0.947 indicating the distribution of the residual data around the mean. Although the histogram does notshows a perfect normal distribution, its shape which is close to normal indicates that the assumption of residual normality for this regression model is most likely met, especially with the number of observations (N) of 30.

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The heteroscedasticity test in regression analysis aims to detect the inconstancy of residual variance between observations. The assumption of homoscedasticity (constant residual variance) is one of the important prerequisites for producing a valid, efficient, and consistent regression model. The presence of heteroscedasticity indicates that the residual variance is not homogeneous across all predictor variable values, which can result in inefficient model parameter estimation and inaccurate statistical inference. Therefore, a good regression model should be free from heteroscedasticity problems to ensure the reliability and consistency of the analysis results.

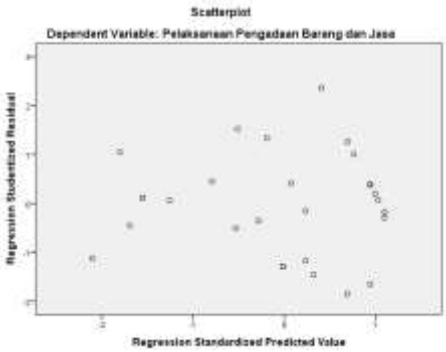

Figure 3. ScatterplotHeteroscedasticity Test

Based on the scatterplot between Regression Standardized Predicted Value and Regression Studentized Residual for the dependent variable "Implementation of Procurement of Goods and Services", the visualization of the distribution of data points shows a pattern that tends to be random and does not form a certain systematic pattern, such as a tapering, widening, or curved pattern. Most of the points are evenly distributed around the residual value of zero on the vertical axis, without any indication of an increase or decrease in residual variance along with changes in the predicted value. Although there are several extreme points that are relatively far from the center of the distribution, overall, this unsystematic distribution pattern provides an initial indication that the assumption of homoscedasticity (constant residual variance) in the regression model is likely to be met. In other words, the residual variance tends to be homogeneous across the range of predicted values of the dependent variable.

Multiple Linear Regression

Multiple regression analysis is a statistical technique used to measure and model the associative relationship between one dependent variable (criterion) and two or more independent variables (predictors). The main purpose of this analysis is to determine the magnitude of the simultaneous and individual influence of the independent variables on the variation in the dependent variable, and to predict the value of the dependent variable based on the combination of the values of the independent variables. Mathematically, the multiple regression model can be represented in the form of an equation:

$$Y=\alpha+\beta1X1+\beta2X2+\beta23X3+\epsilon$$

With Y representing the dependent variable, X1, X2 and X3 representing the independent variables, α is the intercept (constant), β1, β2 and β3 are the partial regression coefficients that show the change in Y for each unit change in X1, X2 and X3 respectively,

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assuming other variables are constant, and ϵ is the error term (residual) that reflects the variation in Y that cannot be explained by the model.

Table 14. ResultsMultiple Linear Regression

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6,284	6,996		0.898	,377
	Implementation of E-Procurement	,868	,139	,783	6,247	,000
	Competence of Procurement Officer	,368	,187	,307	1,969	,060
	Internal Supervision	-,307	,102	-,250	-3,002	,006

Based on the results of the multiple linear regression analysis presented in the Coefficients table, the regression equation formed is as follows:

$$Y=\alpha+\beta1X1+\beta2X2+\beta3X3+\epsilon$$

By referring to the unstandardized coefficient value (B) in the appropriate row, the regression equation can be implemented as:

$$Y=6.284+0.868X1+0.368X2-0.307X3+\epsilon$$

The Coefficients table presents the results of the multiple linear regression model estimation used to analyze the influence of independent variables on the dependent variable (Y). Interpretation is done by considering the statistical significance value (Sig.) and the unstandardized regression coefficient (B) of each predictor variable. Implementation of E-Procurement:The E-Procurement Implementation variable shows a positive and statistically significant effect on the Y variable. This is supported by the regression coefficient value of 0.868 and a significance value of 0.000 ($p<0.05$). This finding indicates that every one unit increase in the implementation of e-procurement will be accompanied by an increase in the Y variable of 0.868 units, assuming other variables in the model are constant (ceteris paribus).

Constant:The constant value of 6.284 with a significance level of 0.377 ($p>0.05$) indicates that in conditions where all independent variables are zero, the value of the Y variable is not significantly different from zero. Thus, the constant value cannot be interpreted significantly in this model.

Discussion The Impact of E-Procurement Implementation on the Implementation of Procurement of Goods and Services

A comprehensive discussion of research findings related to the influence of E-Procurement Implementation, Procurement Officer Competence, and Internal Supervision on the Implementation of Procurement of Goods and Services will be described systematically in the following sub-chapters:

The results of the analysis show that the Implementation of E-Procurement has a statistically significant positive effect on the Implementation of Procurement of Goods and Services. The implementation of E-Procurement is a strong predictor in improving the quality and effectiveness of the Implementation of Procurement of Goods and Services. This

finding implies that the better the implementation of the E-Procurement system, the more optimal the procurement process of goods and services that is carried out.

The positive and significant influence of the Implementation of E-Procurement on the Implementation of Procurement of Goods and Services is closely related to the principles of good governance theory. The E-Procurement system inherently increases transparency in the procurement process. Information on tenders, requirements, participants, and procurement results can be accessed more openly by related parties. This minimizes the potential for corruption, collusion, and nepotism (KKN) practices, which are the antithesis of good governance. The results of this study support the idea that the adoption of technology in procurement contributes to a more open and accountable government.

E-Procurement creates a clear digital trail of every stage of the procurement process. This facilitates audits and accountability for the parties involved. With a well-documented system, performance evaluation and identification of potential deviations become more effective, in line with the principle of accountability in good governance.

The implementation of E-Procurement often speeds up the procurement cycle, reduces transaction costs, and expands the reach of tender participants. This more efficient and effective process is one of the main objectives of good governance practices in public resource management. The results of this study confirm that technology can contribute to achieving efficiency and effectiveness in procurement.

Although not directly measured in this study, E-Procurement has the potential to increase participation of goods and services providers, due to easier access to information and more standardized processes. Broader participation is an important element in good governance, ensuring healthy competition and best value in procurement.

The competence of procurement officers has a significant relationship with the principles of Good Governance Theory. Competent procurement officers are expected to be able to carry out their duties in accordance with laws and regulations, procurement ethics, and the principle of prudence. Although the statistical results in this study are not significant, theoretically, adequate competence will reduce the potential for errors, corrupt practices, and inefficiencies in the procurement process, which is in line with the objectives of good governance.

Competent procurement officers are more likely to document the procurement process well and transparently, and be accountable for the decisions taken. A deep understanding of procurement regulations and procedures will support the creation of a more accountable and responsible process. Although E-Procurement (which proved significant in this study) has a more direct role in transparency, the competence of procurement officers is an important foundation for the effective use of the system and in accordance with the principles of good governance.

Competent procurement officers are expected to be able to plan procurement well, conduct accurate market analysis, evaluate bids objectively, and manage contracts effectively. Adequate competence will contribute to a more efficient procurement process in terms of time and cost, and produce goods/services that are in accordance with needs and

of good quality, which is the essence of good governance in the management of public resources.

The results of the study showed a positive influence, although not statistically significant, has implications for Competency Theory. This theory states that individual performance is greatly influenced by the competencies they possess, which include knowledge, skills, and attitudes. Competent procurement officers have a deep understanding of procurement laws and regulations, procurement principles, types of contracts, evaluation methods, and procurement risk management. This knowledge is the basis for making the right decisions and implementing procurement in accordance with the rules.

Competencies also include technical skills such as the ability to use E-Procurement systems (which are significant in the study), conduct negotiations, prepare procurement documents, analyze bids, and manage supplier relationships. These skills enable procurement officers to run the procurement process effectively and efficiently. Attitude aspects include integrity, honesty, responsibility, and orientation to public service. Procurement officials who have a positive and professional attitude will be more likely to carry out their duties well and avoid practices that are detrimental to the state.

Although the statistical results are not significant at the 5% level, the positive coefficient indicates that theoretically, increasing procurement officer competency contributes to better procurement implementation. This insignificance could be due to other factors not measured in this study, such as training quality, work experience, or work motivation. In addition, it could also be due to the relatively small sample size or the variation in competency in the sample that is not too large.

This research is in line withHandayani et al. (2017) The Influence of Human Resource Competence on the Quality of Procurement of Goods/Services by Local Governments (Empirical Study on District/City Local Governments in Central Java Province).Although the context is specific to Indonesia, this study found that human resource competency (including procurement officers) has a positive influence on the quality of local government procurement of goods/services.

The statistical insignificance in this study does not necessarily contradict the findings of other studies. There are specific factors in the context of this study that influence the results (e.g., the quality of competency measurement, the variation of competencies in the sample, or the influence of other more dominant variables). Although the competency of procurement officers in this study was not statistically significant, the positive direction of the influence is in line with the findings of previous studies that recognize the importance of procurement officer competency in improving procurement implementation.

CONCLUSION

Based on empirical evidence obtained through data analysis and theoretical discourse in the discussion, several significant conclusions can be drawn as follows: *E-Procurement*has a positive and statistically significant influence on the Implementation of Procurement of Goods and Services in the North Sumatra Provincial Government, which inherently supports

the principles of good governance through increased transparency, accountability, efficiency, and the potential for broader participation. The Competence of Procurement Officers shows a positive regression coefficient on the Implementation of Procurement of Goods and Services, indicating a tendency to increase the quality of procurement implementation along with increasing competence, which is theoretically in line with the principles of Good Governance and Competence Theory. Internal Supervision of the Implementation of Procurement of Goods and Services, indicates that increasing the intensity of supervision is actually correlated with decreasing effectiveness, which contradicts conventional expectations and suggests the potential for dysfunction in the implementation of excessive or inappropriate supervision, as supported by research that highlights the negative impacts of bureaucracy and excessive control.

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