

THE QUALITY OF GOVERNMENT FINANCIAL REPORTS

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Abstract

This study aims to test the influence of the use of Big Data, Effectiveness of Budget Planning and Internal Control Systems Quality of Financial Reports in SKPD of Southeast Aceh Regency. Type The research uses a quantitative methodology approach. The population in This research is the SKPD of Southeast Aceh Regency, namely 34 SKPK. The in this study consisted of respondents from 34 SKPK. In the drawing The autho's sample uses the Saturated Sampling technique, namely the technique for determining sample when all members of the population are used as samples. The data that obtained from primary data in the from of questionnaires. The results of this study with using the partial test (t) shows that the Big Data Usage Variable, The Effectiveness of Budget Planning and Internal Control Systems has an impact positive towards the quality of the Financial Report of the Southeast Aceh Regency SKPD.

Keywords: *Use of Big Data, Effectiveness of Budget Planning, System Internal Control, Quality of Financial Reports*

1. INTRODUCTION

In the rapidly developing digital era, information technology has revolutionized the way organizations, including government agencies, manage and analyze data. One significant technological development is the use of big data, which has become an important instrument in supporting strategic decision-making and improving the quality of government financial reports. According to Gartner (2020), big data is defined as information assets with large volumes, high speeds, and diversity that require innovative and efficient data processing. In the context of government, big data enables the processing and integration of various sources of information in real time, so that the financial reporting process can be carried out more transparently, accurately, and accountably. By utilizing big data, government agencies are not only able to detect patterns or trends in budget use, but are also able to respond to the dynamics of community needs more quickly and precisely.

In addition, the effectiveness of budget planning also plays an important role in realizing quality financial reports. Good budget planning reflects the organization's ability to identify priorities, allocate resources optimally, and direct all activities to achieve strategic goals. When planning is carried out carefully and based on valid data (such as through big data), waste of risk, inaccuracy of allocation, and budget deviations can be minimized. This is reinforced by the research findings of Nina Anggraini Anandah & Muhammad Aufa (2023) which show that effective budget planning makes a significant contribution to increasing transparency and accountability of financial reports. Not only that, the existence of a good Internal Control System (SPI) is also a crucial element. The COSO Framework emphasizes the importance of SPI in building a strong governance system, preventing conditions, and ensuring that financial reporting is carried out according to standards. Research by Haerunnisa, Linda Arisanty Razak, & Muchriana Muchran (2024) confirms that effective SPI provides assurance that the financial information presented is reliable and in accordance with applicable accounting principles.

In line with the importance of budget planning and SPI, the use of big data in government financial management cannot be ignored. These three elements complement each other in creating accurate, transparent, and accountable financial reports. In the context of an increasingly complex public sector, big data is a strategic solution for processing large and diverse volumes of financial transaction data. Research by Nugroho et al. (2020) shows that the application of big data analytics in the Indonesian public sector can increase the accuracy of financial reporting by up to 35% and reduce recording errors by 42%. With the support of effective budget planning and a strong internal control system, big data can be the main catalyst in creating better quality financial reports. Further research by Nina Anggraini Anandah & Muhammad Aufa (2023) also shows that the integration of data-based budget planning helps

improve the effectiveness of government performance and fosters public trust in financial accountability. This is further strengthened by the findings of Haerunnisa et al. (2024) which proves that the internal control system has a significant positive effect on the quality of financial reports, as seen in a study at PT Perkebunan Nusantara XIV with an effect of 20.5%. However, the effectiveness of implementing these three elements—especially SPI—still faces various challenges in the field. A comprehensive study conducted by Permana, Rahman, & Sari (2022) on 120 local government work units revealed that only 45% had implemented SPI in accordance with COSO standards as a whole. This finding shows that there is still a significant gap in the effective implementation of SPI in Indonesian government agencies. This inequality has a direct impact on the quality of the financial reports produced, because without strong SPI, financial data—even if analyzed using big data—will not fully reflect the real conditions of the organization. In addition, weak SPI also has the potential to reduce the effectiveness of budget planning, because the risk identification and internal supervision processes are not running optimally. Therefore, the success of utilizing big data and budget planning is highly dependent on the organization's consistency and commitment in strengthening SPI as the main foundation of accountable financial governance.

This condition is also reflected in the Southeast Aceh District Government, where the development of information technology—including the potential for utilizing big data—has not been optimally utilized in regional financial management. The results of the 2023 BPK audit showed that there were still inaccuracies in asset recording and delays in financial reporting, which are indications of a weak internal control system. In addition, budget planning was also considered ineffective, marked by similarities between budget values and realization without adequate explanation, indicating a lack of in-depth analysis and data-based evaluation. Non-compliance with established procedures also indicates that SPI has not been implemented comprehensively and consistently. These three aspects—utilization of big data, effectiveness of budget planning, and strength of SPI—do not run in harmony, thus negatively impacting the quality of financial reports. Therefore, comprehensive evaluation steps and systematic improvements are needed so that regional financial management can be more accountable, transparent, and in accordance with the principles of good governance.

The quality of good financial reports in the Southeast Aceh District Government environment is highly dependent on the integration of three main pillars, namely the use of big data, the effectiveness of budget planning, and the internal control system (SPI). The three have a complementary and reinforcing relationship. Big data plays an important role in supporting decision-making based on accurate and real-time information, allowing agencies to conduct trend analysis, budget predictions, and detect potential deviations early on. Effective budget planning, if based on valid data and sharp analysis, will result in more targeted resource allocation and reduce the risk of waste. Meanwhile, a strong internal control system functions as a monitoring mechanism to ensure that the entire financial process runs in accordance with regulations and accountability principles. When these three components are optimally integrated, the quality of financial reports will not only improve technically, but also reflect the transparency and integrity of regional financial governance as a whole.

The relationship between the three pillars is clearly reflected in the real conditions of the Southeast Aceh Regency Government, especially in the 2023 budget year. The Public Works and Spatial Planning Agency recorded that the realization of the regional budget was only 79.19%, a significant decrease compared to the previous year's achievement of 90.38%. This not only indicates a decrease in the effectiveness of budget planning, but also shows the weakness of the internal control function in ensuring that activity plans can be implemented optimally. Furthermore, big data-based analysis of the Budget Realization Report (LRA) shows an imbalance between regional income and expenditure: income was only realized by 60.03%, with a number of income sources not realized at all, while other items such as laboratory levies actually exceeded the target. Meanwhile, in terms of spending, employee spending was almost fully realized (98.75%), but several types of spending such as capital and maintenance spending experienced low or even zero realization. This condition shows that without the support of maximum utilization of big data in the planning and control process, government agencies find it difficult to prepare realistic and flexible budgets, and carry out activities in accordance with predetermined development priorities. Therefore, the integration of these three elements is very important so that financial reports are not only accurate, but also able to reflect the effectiveness of budget implementation and accountability of local government performance.

Given these conditions, research on “the influence of big data usage, budget planning effectiveness, and internal control systems on the quality of financial reports” becomes very relevant and important to conduct. The phenomenon that occurred in Southeast Aceh Regency is a concrete example of the need for integration of these three elements in regional financial management. The results of this study are expected to provide a significant contribution to the development of better government financial management policies and practices, not only in terms of the accuracy of financial reports, but also in increasing the effectiveness of budget implementation and accountability of regional government performance.

2. RESEARCH METHODS

2.1 Type of Research and Research Location

This study uses quantitative research. Quantitative research is research that emphasizes testing theories or hypotheses through measuring research variables in numbers and analyzing data with statistical procedures (statistical procedures). Location The research location is the area where a study is conducted. Choosing the right location aims to make it easier for researchers to collect data. This research will be conducted in the Southeast Aceh Regency Government. In conducting research, the first thing to consider is the object to be studied. This object often includes problems that need to be studied and become the basis for finding solutions. Sugiyono (2014) explains that the object of research is the object from which the author will obtain the data or information needed. The object of this research is (the use of big data, the effectiveness of budget planning, and internal control systems) affecting the quality of financial reports.

2.2 Population and Sample

According to Sugiyono (2016) Population is the whole of an object or subject that has a certain character, be it in the form of humans, animals, plants, inanimate objects, or other natural phenomena. Population does not only include the number of objects or subjects, but also all the characteristics possessed by the object or subject. The population in this study was 34 agencies/agencies in the Regional Work Unit (SKPD) of Southeast Aceh. This study uses a saturated sampling technique, namely the entire population is sampled. The sample consists of 34 SKPDs in Southeast Aceh Regency with a total of 102 respondents. Respondents include heads of departments/agencies, heads of divisions or heads of financial sub-sections, and treasurers. The selection of respondents is based on their direct involvement in the preparation of SKPD financial reports, so that they are expected to be able to provide representative data on the quality of financial reports.

2.3 Data collection technique

This study uses three main techniques in data collection. First, questionnaires are used as the main instrument to collect quantitative data based on variables such as the use of big data, budget planning effectiveness, internal control systems, and financial reporting quality. Second, interviews and observations serve as complementary techniques to dig deeper information about the implementation of big data and internal control systems directly. Third, documentation is used to collect secondary data through document analysis such as financial reports, audit reports, and budget planning documents to provide a more complete picture of the quality of financial reports.

2.4 Data Analysis Techniques

There are several data analysis techniques used in this study, namely data quality testing techniques, validity testing, reliability testing, classical assumption testing, regression analysis testing and hypothesis testing.

3 RESULTS AND DISCUSSION

3.1 Results

3.1.1 validity test

Validity test is used to measure the validity of a questionnaire. Analysis test using IBM SPSS Statistics V25 and its output is called corrected item total, the provision is if the calculated r value is greater than the r table then the indicator/questionnaire is valid. Validity test is done by comparing the calculated r value with the r table for degree of freedom (df) = n-2, in this case n is the number of samples.

Table 4.1 Validity Test Results

Variables	Signifikan	α	Information
Use of Big Data (X1)	0,001	0,005	Valid
Effectiveness of Budget Planning (X2)	0,001	0,005	Valid
Internal Control System (X3)	0,001	0,005	Valid

sumber : Diolah, Output SPSS (2025)

3.1.2 Reliability Test Results

Reliability testing is carried out on question items that have validity. This research instrument uses the Cronbach Alpha (α) technique with the help of SPSS. Cronbach Alpha interprets the correlation between scales made with all existing variable scales. If the alpha coefficient value is > 0.60 , it is concluded that the research instrument is reliable.

Tabel 4.2 Reliability Test Results

Variables	Cronbach's Alpha	Number of Questions	Information
Use of Big Data (X1)	0.863	10	reliable
Effectiveness of Budget Planning (X2)	0.859	10	reliable
Internal Control System (X3)	0.916	10	reliable
Quality of Financial Reports (Y)	0.890	10	reliable

Sumber : Diolah, Output SPSS (2025)

3.1.2 Classical Assumption Test Results

3.1.2.1 Normality Test Results

The normality test aims to test whether in the regression model, the confounding variables or residuals are normally distributed. The normality test in this study was carried out based on the Kolmogorov-Smirnov (K-S) non-parametric statistical test. It is known that the significance result of 0.075 is greater than 0.05, which indicates that the values of all variables have been normally distributed so that the regression model is feasible to use.

3.1.2.2 Multicollinearity Test Results

The multicollinearity test aims to test whether in the regression mode there is a high or perfect correlation between independent variables. Multicollinearity can be seen in the tolerance value or variance inflation factor (VIF).

Table 4.3 Multicollinearity Test Results

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-2,814	2,347		-1,199	,234		
	Use of Big Data (X1)	,457	,066	,430	6,896	<,001	,439	2,278
	Effectiveness of Budget Planning (X2)	,113	,048	,102	2,353	,021	,904	1,106
	Internal Control System (X3)	,491	,058	,519	8,534	<,001	,462	2,166
a. Dependent Variable: Financial Report Quality (Y)								

Sumber : Diolah, Output SPSS (2025)

Based on the table above, the VIF value for each research variable can be seen as follows:

1. The VIF value for the variable Big Data Usage (X1) is $2.278 < 10$ and the tolerance value is $0.439 > 0.10$ so it is stated that there are no symptoms of multicollinearity.
2. The VIF value for the variable Budget Planning Effectiveness (X2) is $1.106 < 10$ and the tolerance value is $0.904 > 0.10$ so it is stated that there are no symptoms of multicollinearity.

3. The VIF value for the variable Internal Control System (X3) is $2.166 < 10$ and the tolerance value is $0.462 > 0.10$ so it is stated that there are no symptoms of multicollinearity.

3.1.2.3 Heteroscedasticity Test Results

The results of the Heteroscedasticity Test of the researcher's regression model were determined through the indication of the significant value of the Glestjer test on the independent variables in the two research regression models.

Table 4.4 Heteroscedasticity Test Results

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	T
		B	Std. Error	Beta	
1	(Constant)	2,730	1,446		1,888
	Use of Big Data (X1)	-,045	,041	-,173	-1,107
	Effectiveness of Budget Planning (X2)	-,009	,030	-,032	-,290
	Internal Control System (X3)	,025	,035	,108	,708
a. Dependent Variable: Financial Report Quality (Y)					

Sumber : Diolah, Output SPSS (2025)

Based on Table 4.7, it is known that the significance value of the Glestjer test for each independent variable in the three research regression models is higher than the minimum significance value of the Glestjer test (0.05), so it can be concluded that the three regression models used do not have heteroscedasticity problems.

3.1.3 Multiple Linear Regression Analysis Test

To determine the effect of using big data, the effectiveness of budget design and internal control systems on the quality of financial reports, testing was carried out using multiple linear regression analysis.

Table 4.5 Multiple Linear Regression Analysis Test

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	T
		B	Std. Error	Beta	
1	(Constant)	-2,814	2,347		-1,199
	Use of Big Data (X1)	,457	,066	,430	6,896
	Effectiveness of Budget Planning (X2)	,113	,048	,102	2,353
	Internal Control System (X3)	,491	,058	,519	8,534
a. Dependent Variable: Financial Report Quality (Y)					

The regression model formed based on table 4.5 is as follows:

$$Y = -2.814 + 0.457X_1 + 0.113X_2 + 0.491X_3$$

Based on the results of the multiple linear regression equation, each variable explains that:

1. The constant value obtained is -2.814, which means that if the variables for the use of big data, the effectiveness of budget planning and internal control systems in regional finances are assumed to be zero (0), then the quality of the financial report of the Southeast Aceh district government is -2.814.
2. The coefficient value of the variable (X1) for the use of big data is positive at 0.457, indicating that if the variable for the use of big data increases by one unit, the quality of the financial report of Southeast Aceh district will also increase by 0.457.
3. The regression coefficient value of the budget design effectiveness variable (X2) has a positive value of 0.113, indicating that if the budget design effectiveness variable increases by one unit, the quality of the financial report of Southeast Aceh district will also increase by 0.113.
4. The regression coefficient value of the internal control system variable (X3) is positive at 0.491, which can be interpreted that if the internal control system variable (X3) increases, the financial report quality variable (Y) will increase. Choosing the meaning that if the internal control system variable (X3) increases by 1%, the financial report quality variable (Y) will increase by 0.491.

3.1.4 Hypothesis Testing

3.1.4.1 Partial Hypothesis Testing (T-Test)

The partial t-test is also called the individual significance test. This test is used to test how far the influence of one independent variable individually in explaining the variation of the dependent variable.

Table 4.6 Partial Hypothesis Test Results

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2,814	2,347		-1,199	,234
	Use of Big Data (X1)	,457	,066	,430	6,896	<,001
	Effectiveness of Budget Planning (X2)	,113	,048	,102	2,353	,021
	Internal Control System (X3)	,491	,058	,519	8,534	<,001
a. Dependent Variable: Financial Report Quality (Y)						

Based on the results of the partial significance test in table 4.9 above, the following results were obtained:

The use of big data (X1), effectiveness of budget planning (X2), and internal control systems (X3) each have a positive and significant effect on the quality of financial reports, because the significance value is < 0.05 and $T_{count} > T_{table}$.

3.1.4.2 Results of the Determination Coefficient Test (R²)

The coefficient of determination (R^2) essentially measures how much the relationship is between the independent variable and the dependent variable. The value of the coefficient of determination is between 0 and 1.

Table 4.7 Results of the Determination Coefficient Test (R²)

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.918 ^a	.843	.838	2.018
a. Predictors: (Constant), Internal Control System (X3), Use of Big Data (X1), Budget Design Effectiveness (X2)				
b. Dependent Variable: Financial Report Quality (Y)				

The results above show an R value of 0.918, which means that the correlation or relationship between variable X and Y is 0.918 or 91.8%, an R value approaching 1 (one) indicates that the relationship between the independent and dependent variables is strong (close). The Adjusted R Square value is 0.838 or 83.8%, this indicates that the dependent variable that can be explained by variable x is 83.8%, while the remaining 16.2% is explained by other factors not mentioned in this study

3.2 Discussion

3.2.1 The Impact of Big Data Usage on the Quality of Financial Reports

Based on the results of the partial test of the big data usage variable, it has a positive effect on the quality of financial reports. Therefore, the hypothesis stating that the use of big data has a positive effect on the quality of financial reports is accepted. This can be seen from the significance value of 0.001. This value is below the criterion number of 0.05, while when viewed from the t count of 6.896 it is greater than the t table of 1.66159. Thus, if $t_{count} > t_{table}$ then it is accepted or has a positive effect. This means that the use of big data has a positive and significant effect on the quality of local government financial reports. The results of this study indicate that the use of big data will improve the quality of financial reports.

3.2.2 The Influence of Budget Design Effectiveness on the Quality of Financial Reports

Based on the results of the partial test of the variable of the use of internal control systems, it has a positive effect on the quality of financial reports. Therefore, the hypothesis states that the effectiveness of budget planning has a positive effect on the quality of financial reports. This can be seen from the significance value of 0.021. This value is below the criterion number of 0.05, while when viewed from the t count of 2.353 it is greater than the t table of 1.66159. Thus, if $t_{count} > t_{table}$ then it is accepted or has a positive effect. This means that budget planning has a positive and significant effect on the quality of local government financial reports. The results of this study indicate that the existence of budget planning will improve the quality of financial reports.

3.2.3 The Influence of Internal Control Systems on the Quality of Financial Reports

Based on the results of the partial test of the variable of the use of internal control systems has a positive effect on the quality of financial reports. Therefore, the hypothesis states that the use of big data has a positive effect on the quality of financial reports. This can be seen from the significance value of 0.001. This value is below the criterion number of 0.05, while when viewed from the t count of 8.534 it is greater than the t table of 1.66159. Thus if $t_{count} > t_{table}$ then it is accepted or has a positive effect.

CONCLUSION AND SUGGESTIONS

Conclusion

This study aims to determine the effect of the use of big data, the effectiveness of budget planning, and internal control systems on the quality of financial reports of the Southeast Aceh district government. Based on the discussion that has been described, it can be concluded that the test results, the use of Big Data, the effectiveness of budget planning, and internal control systems have a positive and significant effect on the quality of financial reports of the Southeast Aceh District Government.

SUGGESTION

For future researchers, they can expand or add research samples, such as from outside Southeast Aceh or add observation periods.

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