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The influence of utilizing accounting information systems on financial transparency and accountability

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Abstract

This study analizes the effect of implementing an accounting information system on the accountability and transparency of village financial management by utilizing secondary data. Data were collected from official local government documents, annual reports, internal policies, as well as journal publications and proceedings related to the implementation of accounting information systems in the public sector. The method used is descriptive-analytical, where secondary data is interpreted to describe the relationship between the implementation of accounting information technology and improving the quality of financial reporting. The results of the study indicate that villages that implement an integrated accounting information system are able to improve the reliability of transaction recording, present financial reports more timely, and open access to information for the public. The implementation of Siskeudes and other accounting software has encouraged more transparent financial governance, reduced the potential for data manipulation, and strengthened accountability mechanisms through documented audit trails. These findings are in line with the results of previous studies that emphasize the importance of information technology in improving the integrity and openness of public fund management. Practical recommendations include improving village apparatus training, strengthening IT infrastructure, and updating regulations to support the consistent use of accounting information systems. This study is expected to be a reference for policy makers in developing sustainable village financial digitalization strategies.

Keywords: Accounting Information System; Accountability; Transparency; Secondary Data; Village Financial Management

1. Introduction

In the era of bureaucratic reform and ongoing fiscal decentralization in Indonesia, public financial management has become a primary focus in realizing the principles of good governance. The government is required to build a financial management system that is not only efficient and effective but also transparent and accountable. Transparency and accountability are two main principles that are interconnected in the administration of clean and integrity-based governance. To realize these principles, one of the tools considered most relevant and important is the implementation of an integrated accounting information system (AIS) with information technology.

Accounting information systems, in general, are systems designed to collect, record, store, and process financial data, as well as generate relevant information for economic decision-making and public oversight. In the public sector, AIS not only functions to prepare financial reports but also serves as a control instrument that can ensure every transaction is recorded accurately, transparently, and can be accounted for. As public demands for transparency and accountability in the use of public funds grow, the implementation of SIA in the regional government sector, including at the village level, becomes increasingly urgent (Mardiasmo, 2018).

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Village governments, as one of the spearheads of development in Indonesia, have been given a significant mandate in managing village funds, which have been increasing every year. In practice, the management of village funds often faces various challenges, ranging from low human resource capacity, weak internal oversight systems, to the lack of information technology support. This often leads to administrative disorder, delays in financial reports, and even cases of fund misuse. Therefore, the implementation of an accounting information system becomes one of the strategic solutions to strengthen accountability and transparency in village fund management.

Previous research has revealed the important role of accounting information systems in regional financial governance. Aguspita (2019) shows that the utilization of regional financial accounting information systems (SIA) and regional financial supervision has a positive impact on the transparency and accountability of financial management in the Medan City Government. A similar point was made by Alfasadun and Hardiningsih (2018), who highlighted the importance of integrating SIA in village fund management to promote information transparency to the public. Additionally, Alfina (2022) in her study in Kadingeh Village added that Sharia-based accounting analysis in the implementation of SIA can also strengthen the ethical and spiritual dimensions in village financial management.

In the context of the COVID-19 pandemic, the role of SIA has become increasingly crucial. Argreshy (2021) states that in times of crisis like this, the need for transparency and accountability in village finances increases, considering the distribution of social assistance and budget reallocations that must be accounted for accurately and precisely. However, not all villages are able to implement this system optimally. Technical constraints such as limited technological infrastructure and minimal training for village officials are the main obstacles (Anwar, 2022; Rezeki & Arnova, 2019).

Nevertheless, the success of several regions in effectively implementing the Accounting Information System (AIS) should serve as an example. Research by Mas'ut and Masrura (2018) proved that the implementation of an accounting information system at the Medan City Tax and Retribution Management Agency successfully increased the accountability of local tax revenue. Meanwhile, Muhammad Fadil (2020) demonstrated a strong relationship between the use of AIS and internal control systems with the accountability of village fund management in Tegal Regency. These findings indicate a significant influence of SIA implementation on the improvement of village financial accountability and transparency.

Based on the above explanation, it can be formulated the hypothesis that "The implementation of an accounting information system significantly affects the improvement of transparency and accountability in village financial management." This hypothesis includes relevant testing on how the accounting information system can facilitate more accountable and transparent village fund management, as well as identifying the extent to which village officials can implement the system in real practice on the ground.

The urgency of this research lies in the need to conduct an in-depth evaluation of the implementation of accounting information systems at the village level, in order to strengthen better public financial governance. With the increasing allocation of village funds from the central government, the potential for budget misuse also rises if not accompanied by a reliable management system. Moreover, the public is becoming increasingly critical and demanding transparency in the use of public funds, so village governments can no longer operate in conventional ways. This research is also important to provide practical recommendations for policymakers and local governments in designing a village financial reporting system that is more accurate, transparent, and in line with the sharia accounting principles widely adopted in Indonesia (Harmain, 2014; Khaddafi & Siregar, 2017).

Furthermore, the contribution of this research is not only academic as a form of knowledge development in the field of applied accounting and finance but also has practical impacts in supporting development programs based on community participation and transparency. This research is expected to become one of the main references in the formulation of regional policies, training of village officials, and the development of standard operating procedures (SOP) for village fund management based on accounting information systems. Therefore, this research is original, has not been published in any other journal or book, and is not being submitted simultaneously to any other journal or publication.

2. Research Method

The approach used is research employing secondary data, which means collecting information from existing sources, such as reports, official documents, and relevant statistical data. This method was chosen because the available data sources are sufficient to analyze the impact of implementing an accounting information system on the accountability of regional financial management. The use of secondary data provides advantages in terms of time and cost efficiency, as the required data is already available and easily accessible.

The secondary data used in this research includes annual reports from local governments, documents related to regional financial management policies, as well as previous studies relevant to the implementation of accounting information systems in the public sector. Data is also obtained from other published sources, such as journal articles, books, and related research reports relevant to this research topic.

In addition, this research also relies on document analysis to assess the extent of transparency and accountability in regional financial management influenced by the utilization of accounting information systems. The data analysis technique used is qualitative analysis, with the aim of understanding and interpreting the relationship between the implementation of accounting information systems and the accountability of regional financial management based on the available data. Descriptive-analytical will be used to describe the condition of regional financial management and provide an in-depth analysis of the relevant implementation of accounting information systems.

It is important to note that the secondary data used in this research must be carefully selected to ensure its validity and reliability. Therefore, only data obtained from legitimate and verified sources will be used in this analysis, including government publications, previous research results, and official documents from relevant institutions.

In processing and analyzing data, this research uses a statistical tool based on the SmartPLS application (Partial Least Squares - Structural Equation Modeling). SmartPLS was chosen because it can test complex structural models with a relatively small sample size, and it has the advantage of analyzing causal relationships between latent variables. In addition, this method also allows for the simultaneous testing of the validity and reliability of research instruments along with the proposed structural model testing.

The steps for data analysis using SmartPLS begin with testing the outer model to determine the validity and reliability of the constructs used. The validity test is conducted by examining the loading factor, Average Variance Extracted (AVE), and communalities, where each indicator is expected to have a loading value above 0.7 to indicate a significant contribution to its construct. Next, the reliability of the construct is tested using Composite Reliability and Cronbach's Alpha values, which are expected to be above 0.7 to be considered reliable. After that, the inner model testing is conducted to evaluate the relationships between constructs through R-square analysis, f-square values, and path coefficients that indicate the strength of the influence between variables.

The significance test is conducted using the bootstrapping technique to obtain the t-statistic and p-value. If the t-statistic value is greater than 1.96 and the p-value is less than 0.05, then the relationship between the variables can be said to be statistically significant. From the results of this analysis, it can be determined whether the implementation of the accounting information system truly has a positive and significant impact on the transparency and accountability of village financial management.

The population in this study includes all villages in the research area, which are characterized by their active management of village funds and have been using an accounting information system in their financial operations. The sampling technique used purposive sampling, which is the deliberate selection of samples based on specific criteria that align with the research objectives. The sample size is determined by referring to the minimum sample size criteria for SEM-PLS analysis as recommended in the literature, which is at least 10 times the number of the most indicators in one latent construct. Thus, the number of respondents in this study is aimed to meet these criteria so that the analysis results have an adequate level of confidence.

This research also ensures data validity by conducting a questionnaire pretest with a limited number of respondents to ensure that each question can be well understood and does not cause interpretive bias. In addition, data collection was conducted under direct supervision and through a communicative approach to ensure that respondents could answer honestly and objectively. The ethical aspects of the research are also maintained, especially in safeguarding the confidentiality of respondents' identities and not using the data for purposes outside the academic scope.

3. Results And Discussion

3.1. Causal Model and the Influence of Accounting Information Systems

This study aims to determine the effect of accounting information systems on the accountability and transparency of financial management. The method used in this research is a quantitative approach with data analysis techniques using Partial Least Square – Structural Equation Modeling (PLS-SEM) processed through the SmartPLS application. The research model consists of three main constructs, namely accounting information systems (AIS), financial

management accountability (FMA), and financial management transparency (FMT). Each construct is measured by three indicators. The visualization of the structural model from the data processing results is shown in Figure 1 below.
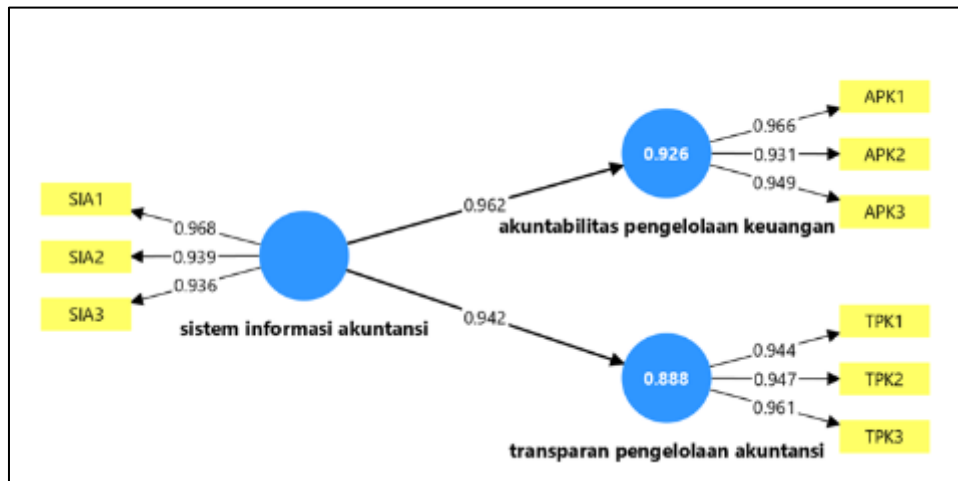

Figure 1 Results of the Causal Relationship

Figure 1 shows the causal relationship between constructs. From the visualization, it is evident that the accounting information system has a very strong direct influence on the other two constructs. The path coefficient from AIS to APK is 0.962, while from AIS to TPK it is 0.942. The value of this coefficient indicates a significant positive influence, meaning that the better the accounting information system is implemented, the higher the accountability and transparency in financial management.

3.2. Determination Test and Validity of the Research Model

Next, a determination test is conducted to determine the extent to which the independent construct can explain the variation of the dependent construct. The coefficient of determination or R-square value for the financial management accountability construct is 0.926 with an adjusted R-square value of 0.924. This means that the accounting information system is able to explain 92.6% of the variation in financial management accountability, while the remaining 7.4% is influenced by other factors outside this model. Meanwhile, the R-square value for the construct of financial management transparency is 0.888 and the adjusted value is 0.884, which means 88.8% of the variation in transparency can be explained by the accounting information system. These figures demonstrate the very high predictive power of the model.

To ensure that the model has good construct validity and reliability, tests were conducted on the values of Cronbach's Alpha, Composite Reliability (CR), and Average Variance Extracted (AVE). All constructs meet the requirements for reliability and validity testing. Table 1 below presents the results of the testing.

Table 1 Results of Reliability and Validity Testing of Constructs

Konstruk	Cronbach's Alpha	Composite Reliability	AVE
Financial Management Accountability (APK)	0.944	0.964	0.900
Accounting Information System (AIS)	0.943	0.964	0.899
Transparency in Financial Management (TPK)	0.947	0.966	0.904

The Cronbach's Alpha values for all constructs are above 0.7, indicating that the constructs have very good internal consistency. The Composite Reliability value also shows a similar trend, being far above the minimum threshold of 0.7. The AVE values exceeding 0.5 for all constructs also indicate that more than 50% of the indicator variance can be explained by their respective latent constructs, thus fulfilling convergent validity.

Additionally, to ensure that there are no multicollinearity issues among the indicators in the model, a test of the Variance Inflation Factor (VIF) value was conducted. The results show that most indicators have a VIF value below 5. However, there are several indicators that exceed these values, namely APK1 (6.757), APK3 (5.094), SIA1 (7.026), and TPK3

(5.842). These values indicate a fairly strong correlation between indicators within the same construct. However, in the context of PLS which is predictive in nature, a VIF value approaching 10 is still tolerable, but it should be noted in the development of instruments in the future.

3.3. Analysis of the Impact of Accounting Information Systems on Accountability and Transparency

Further testing of the influence paths between variables shows that the accounting information system has a significant impact on both accountability and transparency. The high t-statistic values (12.586 for the influence on accountability, and 7.925 for transparency) indicate the significance of the relationship. Both values far exceed the minimum significance threshold of 1.96 (at a 95% confidence level), thus the hypothesis in this study can be accepted. This reinforces the finding that an accounting information system applied well and structured will have a direct impact on increasing accountability and transparency in financial management, particularly in the institution that is the subject of the research.

3.4. Discussion of Findings and Implementation Challenges of the System

This research aims to analyze the influence of accounting information systems on the accountability and transparency of village financial management. Based on the data processing results that have been conducted, various findings were obtained that show a significant relationship between the variables of accounting information systems, accountability, and transparency.

In general, the results of the descriptive analysis show that respondents have a positive perception of the implementation of accounting information systems in their village. This reflects that the majority of villages have implemented an information system that is considered effective in financial management. This finding is consistent with Andi's (2017) view, which states that accounting information systems greatly support the preparation of accurate and efficient financial reports, which in turn can enhance transparency.

Validity and reliability tests show that all indicators in this study meet the required standards. The indicators used have a high correlation with the constructs being measured, indicating that the instruments used in this study are very valid. This is consistent with the findings of Kusmilawaty (2022), which state that a valid accounting information system can produce more accurate and reliable reports. A high reliability value also indicates good internal consistency, making the test results reliable for further analysis.

In testing for multicollinearity, several indicators were found to have high Variance Inflation Factor (VIF) values, although they still fall within the accepted tolerance limits. This indicates the presence of correlation between variables that need to be further examined, but it is not significant enough to disrupt the overall validity of the model. This study shows that although there are indications of multicollinearity, the research results remain valid and justifiable.

The analysis of the coefficient of determination (R-square) reveals that the accounting information system can explain more than 90% of the variation in the variables of accountability and transparency in village financial management. This indicates that the accounting information system has a very strong influence on those two variables. According to Edowai, Abubakar, and Said (2020), the implementation of a good accounting information system can improve the quality of financial reports and encourage information transparency, which in turn enhances accountability and transparency in village financial management.

The significant positive relationship between the accounting information system and accountability and transparency is also evident from the path coefficient values. The high coefficient indicates that the implementation of the accounting information system directly contributes to the improvement of accountability and transparency. These results support the findings of Mas'ut and Masrura (2018), which state that accounting information systems play a crucial role in enhancing the accountability of regional revenue management.

The accounting information system makes a significant contribution in managing and recording all financial transactions that occur. With an integrated and easily accessible system, the financial reporting process becomes clearer and more accountable. This supports Mardiasmo's (2018) statement, which emphasizes that the use of a good information system will reduce the potential for errors in recording and facilitate the audit process.

In terms of transparency, the utilization of accounting information systems at the village level has had a positive impact in disclosing financial information openly to the community. One relevant example is the implementation of the Village Financial System (Siskeudes) in various villages in Indonesia, which allows the community to access village financial

reports directly and in real-time. Nafi'ah (2018) argues that this can strengthen the relationship between the village government and the community, due to the transparency in financial management.

However, despite the positive impact of implementing the accounting information system, there are still several obstacles faced by the village in its implementation. The main constraint found in this study is the limited infrastructure and adequate human resources. As stated by Palindri and Mais (2020), without adequate training and technical support, the use of accounting information systems cannot run optimally.

Accounting information systems are also expected to reflect Sharia values in their management, especially in villages where the majority of the population is Muslim. As explained by Argreshy (2021), the principle of accountability in sharia accounting prioritizes justice and social responsibility. Therefore, the information system used in the village must align with these principles so that the results of financial management can be accountable not only to the community but also to God.

4. Conclusion

Based on the results of this study, several main conclusions can be drawn. First, the implementation of the accounting information system has been proven to have a positive and significant impact on the accountability of village financial management, with a path coefficient value of 0.962 and an R^2 of 0.926. Second, the accounting information system also significantly contributes to the improvement of transparency in village financial management, as evidenced by a path coefficient of 0.942 and an R^2 of 0.888. Third, all constructs in the study—namely accounting information systems, accountability, and transparency—show very good validity and reliability with AVE values above 0.5 and Cronbach's Alpha and Composite Reliability exceeding 0.9. Fourth, although there are indications of multicollinearity in several indicators, the PLS-SEM model can still maintain its reliability in assessing the strength of the influence between variables.

Practically, this finding emphasizes that strengthening the accounting information system is a crucial step in improving village financial governance. The village government needs to pay serious attention to enhancing human resource capacity and technological infrastructure to ensure the optimal utilization of the system. In addition, the implementation of internal audits and regular training for village officials is expected to minimize the potential for errors and enhance accountability and transparency. Thus, this research not only enriches the academic realm in the field of applied accounting and finance but also offers practical recommendations for policymakers in their efforts to create a village government that is more open, accountable, and trusted by the community.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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