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The Effect of The Use of Integrated Social Welfare Data, Information Technology, and Internal Control Systems on The Prevention of Fraud in The Management of Social Assistance Funds

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The author(s) declare that the research was conducted without any commercial or financial relationships that could be construed as a potential conflict of interest.

ABSTRACT

Purpose: This study aims to analyze the impact of the use of the Integrated Social Welfare Data (DTKS) and the Internal Control System (SPI) on fraud prevention in the management of social assistance funds at the Gorontalo Provincial Social Affairs Office.

Research Method: This study employed a quantitative approach with a causal design. Primary data were collected through a questionnaire distributed to employees directly involved in the administration of social assistance, who were selected using purposive sampling. Data analysis was conducted using validity and reliability tests, classical assumption tests, and multiple linear regression analysis with the aid of SPSS.

Results and Discussion: The research results show that the use of the DTKS does not have a significant effect on fraud prevention. These findings indicate that the existence of the DTKS is not yet capable of directly preventing fraud if data quality, updates, and verification of aid recipients are not yet optimal. In contrast, the SPI has a positive and significant effect on fraud prevention. Together, the DTKS and SPI have a significant effect on fraud prevention, with an Adjusted R^2 value of 0.778.

Implications: Strengthening the SPI, improving the quality of DTKS data, and optimizing the verification and validation processes are necessary to support accountable and targeted social assistance management.

Originality: This study positions the DTKS as a social welfare database, an information system, and an administrative verification tool for preventing fraud in the management of social assistance.

Keywords: integrated social welfare data; internal control system; fraud prevention; social assistance; public sector accounting.

1. Introduction

The Government of the Republic of Indonesia implements various social assistance programs as instruments of social protection to improve public welfare and reduce social inequality. The success of these programs depends heavily on the accuracy of beneficiary targeting, the quality of data management, the integrity of government officials, and the effectiveness of oversight. Data errors such as duplication, outdated data, and invalid data can cause assistance to fail to reach the intended recipients and create opportunities for fraud in the management of social assistance (L. Y. Sari *et al.*, 2024). Therefore, adequate control and information systems support are needed to ensure the accuracy

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of beneficiary data (Shidqi & Arfiansyah, 2025). The urgency of fraud prevention is increasing because social assistance involves substantial public funds and targets vulnerable groups. In contrast, fraud can occur at every stage—from data collection and verification to beneficiary selection and distribution (Christian *et al.,* 2022). This phenomenon remains a serious problem in Indonesia, as evidenced by the State Audit Agency's (BPK) findings regarding misdirected social assistance totaling Rp185.23 billion (Rachman, 2022), a corruption case involving rice social assistance at the Indonesian Ministry of Social Affairs amounting to Rp127.5 billion (Ernes, 2023), and allegations of corruption involving social assistance funds in Bone Bolango Regency, Gorontalo, totaling Rp1.72 billion (Nawu, 2025)—all of which indicate that fraud in the management of social assistance remains systemic and requires more effective preventive measures.

These issues demonstrate that the success of social assistance distribution is determined not only by the availability of funding and information technology but also by the quality of social welfare data governance used to determine aid recipients. In this context, the Integrated Social Welfare Database (DTKS) plays a broader role than merely serving as an information technology system. The DTKS is a national social welfare database integrated with government information systems and serves as an administrative tool for verifying, validating, and updating data on social assistance recipients. Thus, the effectiveness of the DTKS is determined not only by technological aspects but also by data quality, the accuracy of the verification process, and the synchronization of information between the central and local governments.

According to Komarasari (2017), as cited in Maghribi (2023), the utilization of information technology refers to the use of technology to manage information and electronic transactions to improve organizational performance and the quality of public services. In the management of social assistance, information technology is used through the Integrated Social Welfare Database (DTKS), which serves as the primary basis for determining beneficiaries. The DTKS functions not only as an information system but also as a national database containing social, economic, and demographic information on the population in the lowest welfare groups. Additionally, the DTKS serves as an administrative tool for verifying and validating potential aid recipients, thereby serving as the primary foundation for ensuring the accuracy of social assistance program targeting (Dwiarto, 2020).

Nevertheless, the implementation of the DTKS still faces various challenges. Not all local governments update their data regularly through adequate verification and validation processes. As a result, data that does not reflect the community's actual conditions are still found, leading to both exclusion and inclusion errors. Exclusion errors occur when individuals eligible for assistance are not recorded in the DTKS, while inclusion errors occur when ineligible individuals are registered as assistance recipients (Raden, 2023). This issue was evident in the case of misdirected BLT assistance in Dutohe Village, where a civil servant was listed as a recipient due to outdated, unupdated data. This case demonstrates that the existence of the DTKS cannot fully guarantee accurate targeting if the processes of verification, validation, and data updating are not carried out optimally (KompasTV, 2020). This situation indicates that data quality and administrative governance remain critical factors determining the effectiveness of the DTKS in supporting the distribution of social assistance.

In addition to data quality, the success of fraud prevention is also influenced by the effectiveness of the Internal Control System (ICS). According to Kaaba *et al.,* (2025), an internal control system is a process designed and implemented by all elements of an organization to ensure that every activity is carried out in accordance with applicable regulations and to achieve the organization's objectives

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effectively and efficiently. From a fraud-prevention perspective, the ICS serves as a monitoring mechanism that detects and prevents various forms of irregularities at an early stage. Based on the views of Sujana *et al.,* (2020), as cited in Dali *et al.,* (2025), the internal control system is a crucial instrument for controlling, directing, and evaluating the use of organizational resources, thereby minimizing the risk of fraud. Therefore, an effective internal control system is expected to strengthen the social assistance management process while reducing the likelihood of irregularities.

Various previous studies have shown that internal control systems and information technology are linked to fraud prevention. A study by Made *et al.,* (2025) found that internal control systems and information technology positively affect fraud prevention. Conversely, Wiguna and Sofie (2023) found that internal controls do not significantly affect fraud prevention, whereas information technology has a positive effect. These differing results indicate that the relationship between these two variables and fraud prevention remains inconsistent.

In addition to revealing empirical inconsistencies, previous studies generally still position information technology as a general administrative tool, such as accounting information systems or organizational digital applications. These studies have not specifically examined the DTKS, which has distinct characteristics because it functions not only as information technology but also as a social welfare database and an administrative verification mechanism for social assistance recipients. Consequently, there remains limited understanding of how the use of DTKS can contribute to fraud prevention in the management of local government social assistance. This research gap is also evident in the scarcity of studies examining the effectiveness of the DTKS in the context of local social assistance management, which is vulnerable to issues such as data validity, targeting inaccuracies, and inter-agency information synchronization. In fact, the nature of fraud in social assistance management differs from that in other sectors because it is highly dependent on the quality of beneficiary data and the administrative verification processes carried out by the government. Therefore, research is needed to more comprehensively explain the role of DTKS in supporting fraud prevention.

Based on this gap, this study aims to analyze the influence of the Internal Control System (SPI) and the utilization of the Integrated Social Welfare Data (DTKS) on fraud prevention in social assistance management at the Gorontalo Provincial Social Affairs Office. The novelty of this study lies in positioning the DTKS as a construct that simultaneously serves three functions: a social welfare database, an information system, and an administrative verification mechanism for social assistance recipients. This approach is expected to broaden the scope of public sector accounting research, particularly regarding the governance of data-driven social assistance in supporting fraud prevention.

The remainder of this paper is organized as follows. Section 2 provides a literature review and hypothesis development. Section 3 presents the research method and design. Section 4 provides the results and discussion. Section 5 presents Concluding Remarks and Recommendations.

2. Literature Review and Hypothesis Development

2.1 Literature Review

2.1.1 Agency Theory

Agency theory explains the relationship between the principal (the party granting authority) and the agent (the party receiving authority to carry out specific tasks). This theory was proposed by Jensen and Meckling (1976), who argued that the relationship between the principal and the agent can give rise to

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conflicts of interest due to differences in objectives and in the information available to the two parties. This situation creates information asymmetry when the agent possesses more information than the principal, potentially leading the agent to act in their own self-interest.

In the context of social assistance management, the government and the public act as principals, entrusting the management of social assistance funds to officials at the Social Services Department as agents. The positions of officials who have access to the processes for data collection, verification, validation, and distribution of social assistance have the potential to create information asymmetry that can create opportunities for fraud. Therefore, control mechanisms and data management systems are needed to enhance transparency and reduce the likelihood of irregularities in the management of social assistance.

2.1.2 Fraud Triangle Theory

The Fraud Triangle theory, introduced by Donald R. Cressey (1953), is one of the most widely used frameworks for explaining the causes of fraud. This theory states that fraud occurs due to the interaction of three main elements: pressure, opportunity, and rationalization. Fraud tends to occur when an individual faces certain pressures, has the opportunity to commit misconduct, and can morally justify their actions. In this study, the element of opportunity is the primary focus because opportunity is a factor that can be controlled through improvements in organizational governance. Opportunities for fraud can arise when internal control systems are ineffective, oversight processes are weak, and the quality of data used in decision-making is inadequate. Conversely, these opportunities can be minimized by strengthening internal control systems and ensuring accurate and accountable management of beneficiary data.

In the context of social assistance, opportunities for fraud arise not only from weak oversight but also from governance issues in the Integrated Social Welfare Data System (DTKS). The DTKS functions not only as an information technology system but also as the national social welfare database, a social service information system, and an administrative tool for verifying and validating aid recipients. If data is not updated regularly, is not properly verified, or is not optimally integrated with relevant agencies, the likelihood of inclusion errors, exclusion errors, or manipulation of beneficiary data will increase. Therefore, the Fraud Triangle theory provides a theoretical foundation for the argument that strengthening DTKS governance and internal control systems can reduce "opportunity," the primary factor causing fraud.

2.2 Hypothesis

2.2.1 The Use of the Integrated Social Welfare Data (DTKS) for Fraud Prevention

The Integrated Social Welfare Database (DTKS) is a national database containing social, economic, and demographic information on the population, which the government uses to determine beneficiaries of various social assistance programs. In addition to serving as a database, the DTKS also functions as an information system and administrative tool that supports the verification, validation, and updating of beneficiary data. The existence of the DTKS is expected to improve the accuracy of beneficiary data, thereby reducing misallocation and minimizing the potential for fraud in the management of social assistance. From the perspective of the Fraud Triangle, the DTKS plays a role in reducing the "opportunity" element by providing more accurate, transparent, and systematically documented data.

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Effective use of the DTKS enables the government to identify aid recipients more precisely, reduce the potential for data manipulation, and enhance the accountability of the social assistance distribution process. Research by Wiguna and Sofie (2023) shows that information technology has a significant impact on fraud prevention. These findings indicate that the use of a well-designed information system can strengthen organizational transparency and accountability, thereby reducing the likelihood of irregularities.

H1: *The use of the Integrated Social Welfare Data (DTKS) has a significant impact on fraud prevention.*

2.2.2 Internal Control System (ICS) for Fraud Prevention

An internal control system is a set of policies, procedures, and control activities designed to provide reasonable assurance that the organization's objectives can be achieved effectively and efficiently. This system also serves to prevent, detect, and correct various irregularities that could result in losses for the organization. From the perspective of the Fraud Triangle, the internal control system plays a direct role in reducing opportunity by strengthening oversight, enhancing the separation of duties, clarifying authorizations, and reinforcing the organization's monitoring mechanisms. The more effective the internal control system is, the smaller the opportunity for individuals to commit fraud. Research by Fitriyani and Sinaga (2022) shows that internal control systems have a significant impact on fraud prevention in the management of social assistance funds.

H2: *Internal Control Systems (ICS) have a significant impact on fraud prevention.*

2.2.3 The Use of the DTKS and Internal Control Systems for Fraud Prevention

Fraud prevention in social assistance management requires a combination of high-quality data governance and effective organizational control mechanisms. In this context, the DTKS plays a role in providing accurate data to determine assistance recipients. At the same time, the Internal Control System (SPI) ensures that all processes for verification, validation, and distribution of assistance are carried out in accordance with applicable regulations. Theoretically, both the DTKS and the SPI contribute to reducing the "opportunity" element of the Fraud Triangle. The DTKS reduces the opportunity for fraud by improving information quality and the validity of beneficiary data. In contrast, the SPI reduces the opportunity for fraud through continuous monitoring, control, and evaluation. Therefore, the effectiveness of fraud prevention is expected to increase if both instruments are implemented simultaneously. Research by Made *et al.,* (2025) shows that internal control systems and information technology together have a significant impact on fraud prevention.

H3: *The simultaneous use of the Integrated Social Welfare Data System (DTKS) and the Internal Control System (SPI) has a significant impact on preventing fraud in the management of social assistance funds.*

3. Research Method

This study was conducted at the Gorontalo Provincial Social Affairs Office, located in Gorontalo City. The selection of the research location was based on the agency's strategic role in managing various social assistance programs that use the Integrated Social Welfare Data (DTKS) to determine beneficiaries.

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Table 1. Variables and Measurements

Variable	Dimensions	Indicator	Scale
Use of Integrated Social Welfare Data (DTKS) (X1) (D. K. Sari *et al.,* 2022)	Level of Utilization Intensity Frequency of Use Number of Apps Used	▪ Integration of Information Technology into Core Business Processes ▪ The Use of Information Technology to Improve Accuracy and Decision-Making ▪ Frequency of IT Use in Daily Tasks ▪ Consistency in the Use of IT in Workflows ▪ A Variety of Applications to Support Control and Services ▪ Application Interoperability and Ease of Data Integration	Likert
Internal Control System (X2) (Dali *et al.,* 2025)	Control Environment Risk Assessment Control Activities Information and Communication Monitoring	▪ Clarity regarding organizational rules and ethics. ▪ Management's commitment to control integrity. ▪ Identify risks in the social assistance management process. ▪ Analisis potensi dampak risiko. ▪ Implementation of standard operating procedures (SOPs). ▪ The existence of verification and authorization mechanisms. ▪ The availability of an adequate information system. ▪ Providing accurate information to the relevant parties. ▪ Periodic evaluation of the effectiveness of controls. ▪ Corrective actions to be taken if weaknesses are identified.	Likert
Fraud Prevention in the Management of Social Assistance Funds (Y) (Dali *et al.,* 2025)	Implementation of Anti-Fraud Policies Procedures for Preventing Fraud Fraud Control Techniques Fraud Sensitivity	▪ The existence of formal regulations for the prevention of fraud. ▪ Communicating the policy to all employees. ▪ Clarity regarding the fraud reporting mechanism. ▪ A structured investigative procedure. ▪ Implementation of IT-based monitoring or audit trails. ▪ The use of risk analysis to detect anomalies. ▪ Employees' ability to recognize the signs of fraud. ▪ Prompt response to indications of irregularities	Likert

This study employs a quantitative approach using a causal research design. The quantitative approach was chosen because it allows for the objective testing of relationships between variables through statistical analysis. According to Sugiyono (2019), quantitative methods are research methods grounded in the philosophy of positivism, designed to test hypotheses based on empirically measurable data. This study aims to analyze the impact of using the Integrated Social Welfare Data (DTKS) and the Internal Control System (SPI) on fraud prevention in the management of social assistance funds.

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The study population comprises all employees of the Gorontalo Provincial Social Affairs Office involved in managing social assistance. The management of social assistance in question includes DTKS data collection, verification and validation of beneficiary data, beneficiary identification, distribution of social assistance, as well as monitoring and evaluation of social assistance programs. Purposive sampling was used because not all employees are directly involved in managing social assistance. The criteria for respondents used in this study include: (1) employees directly involved in the management of social assistance; (2) employees who use or have access to the DTKS in the performance of their duties; (3) employees who understand the procedures of the Internal Control System for social assistance management; and (4) employees who have worked for at least one year in the relevant work unit.

The research data consists of primary data obtained through the direct distribution of questionnaires to respondents. The research instrument was developed based on indicators for each variable, adapted from previous studies. Variables were measured using a five-point Likert scale with a score range of 1 to 5, where 1 indicates "strongly disagree" and 5 indicates "strongly agree." In this study, the DTKS is not viewed merely as information technology but as a system comprising three main functions: a social welfare database, a social assistance management information system, and an administrative tool for verifying and validating social assistance recipients. Therefore, the measurement of the DTKS variable focused on the level of data utilization, information integration, and the system's support for the accuracy of determining social assistance recipients.

Prior to hypothesis testing, the data were analyzed using descriptive statistics, validity and reliability tests, data transformation via the Method of Successive Intervals (MSI), classical assumption tests, and multiple linear regression in the Statistical Package for the Social Sciences (SPSS).

4. Results and Discussion

4.1 Analysis Results

4.1.1 Descriptive Analysis of Research Variables

A descriptive analysis of the research variables was conducted to provide a detailed overview of the impact of the use of integrated social welfare information technology and internal control systems on the prevention of fraud in the management of social assistance funds. The distribution of respondents' answers is shown in Table 2. The variable "Utilization of Information Technology for the Integrated Social Welfare Data System (DTKS)" scored 69.97% and fell into the "good" category. This result indicates that information technology has been used effectively to support data management and the distribution of social assistance. The indicator for the number of applications used received the highest score (72.76%), while the frequency of use received the lowest score (66.73%). Overall, these findings indicate that the use of DTKS information technology has been effective but still needs improvement to enable more optimal data management and social assistance services.

Table 2. Guidelines for Descriptive Analysis

Variable	SS (%)	S (%)	RR (%)	TS (%)	STS (%)
The Use of Information Technology for Integrated Social Welfare Data	24.1%	37.3%	12.8%	15.0%	10.8%
Internal Control System	40.3%	32.0%	6.0%	10.4%	11.3%
Fraud Prevention	28.9%	41.8%	7.1%	12.6%	9.5%

Source: *Data processed in 2026*

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4.1.2 Data Validity and Reliability Tests

Based on the validity test results in Table 3, all indicators for the variables Integrated Social Welfare Data (DTKS), Internal Control System, and Fraud Prevention in Social Assistance Fund Management have a calculated r value greater than the table r value of 0.2816. Thus, all statement items are deemed valid and capable of adequately measuring the intended constructs. The reliability test results show that the Cronbach's Alpha values for the Integrated Social Welfare Data Utilization (DTKS) variable are 0.779, for the Internal Control System are 0.787, and for Fraud Prevention in Social Assistance Fund Management are 0.786. All of these Cronbach's Alpha values are above the minimum threshold of 0.60, thus meeting the reliability criteria proposed by Ghozali (2021). Consequently, all research instruments are deemed reliable and possess a good level of consistency for use in research data collection.

Table 3. Results of the Validity and Reliability Tests for the Research Instrument

Variable	Indicator Code	r-calculated	r-estimated	Validity Status	Cronbach's Alpha	Reliability Status
Use of Integrated Social Welfare Data (DTKS) (X1)	X1.1	0.876	0.2816	Valid	rowspan=12	rowspan=12
	X1.2	0.863	0.2816	Valid	0.779	Reliable
	X1.3	0.883	0.2816	Valid		
	X1.4	0.750	0.2816	Valid		
	X1.5	0.406	0.2816	Valid		
	X1.6	0.945	0.2816	Valid		
	X1.7	0.808	0.2816	Valid		
	X1.8	0.796	0.2816	Valid		
	X1.9	0.829	0.2816	Valid		
	X1.10	0.937	0.2816	Valid		
	X1.11	0.876	0.2816	Valid		
	X1.12	0.851	0.2816	Valid		
Internal Control System (X2)	X2.1	0.963	0.2816	Valid	rowspan=12	rowspan=12
	X2.2	0.942	0.2816	Valid	0.787	Reliable
	X2.3	0.965	0.2816	Valid		
	X2.4	0.963	0.2816	Valid		
	X2.5	0.800	0.2816	Valid		
	X2.6	0.963	0.2816	Valid		
	X2.7	0.923	0.2816	Valid		
	X2.8	0.973	0.2816	Valid		
	X2.9	0.935	0.2816	Valid		
	X2.10	0.961	0.2816	Valid		
	X2.11	0.947	0.2816	Valid		
	X2.12	0.919	0.2816	Valid		
Fraud Prevention in the Management of Social Assistance Funds (Y)	Y1	0.946	0.2816	Valid	rowspan=12	0.786
	Y2	0.944	0.2816	Valid	rowspan=12	Reliable
	Y3	0.796	0.2816	Valid		
	Y4	0.901	0.2816	Valid		
	Y5	0.950	0.2816	Valid		
	Y6	0.965	0.2816	Valid		
	Y7	0.949	0.2816	Valid		
	Y8	0.948	0.2816	Valid		
	Y9	0.944	0.2816	Valid		
	Y10	0.929	0.2816	Valid		
	Y11	0.925	0.2816	Valid		
	Y12	0.908	0.2816	Valid		

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4.1.3 Normality Test Results

A normality test was conducted to determine whether the residuals or the disturbance variable in the regression model follow a normal distribution. In this study, normality was assessed using the Shapiro-Wilk test. The results of the preliminary normality test, conducted on a sample of 49 respondents (employees of the Provincial Social Services Agency), are as follows:

Table 4. Results of the Preliminary Normality Test

Variable	Kolmogorov-Smirnov Statistic	df	Sig.	Shapiro-Wilk Statistic	df	Sig.
Unstandardized Residual	0.111	49	0.179	0.945	49	0.024

Source: *Data processed in 2026*

The results of the normality test using the Shapiro-Wilk method yielded a significance value of 0.024. This value is less than 0.05, indicating that the study's residual data are not normally distributed. This suggests the presence of several outliers. Therefore, the researcher performed a one-time outlier removal process to improve the data distribution and meet the assumption of normality. Based on the results of the normality test after the first round of outlier removal, the p-value from the Shapiro-Wilk test was 0.062. Since this significance value is greater than 0.05, it can be concluded that the residual data are normally distributed.

4.1.4 Multicollinearity Test Results

A multicollinearity test was conducted to examine the Tolerance and Variance Inflation Factor (VIF) values. Based on the research results, the variables "Utilization of Integrated Social Welfare Information Technology" (X1) and "Internal Control System" (X2) had Tolerance values of 0.322 and Variance Inflation Factor (VIF) values of 3.108, respectively. The Tolerance values for both variables are less than 0.10, and the VIF values are greater than 10; therefore, these two independent variables exhibit multicollinearity.

4.1.5 Heteroscedasticity Test Results

A heteroscedasticity test was conducted to ensure that the regression model exhibits equal residual variances across all observations (homoscedasticity). In this study, to strengthen the analysis regarding the influence of the utilization of integrated social welfare information technology and internal control systems on the prevention of fraud in the management of social assistance funds at the Gorontalo Provincial Social Affairs Office, the researcher used the Glejser statistical test. Based on the results of the heteroscedasticity test, the variable Utilization of Integrated Social Welfare Information Technology (X1) had a significance value of 0.607, and the variable Internal Control System (X2) had a significance value of 0.307. Both significance values are greater than the significance level of 0.05 (Sig. > 0.05). This indicates that there is no evidence of heteroscedasticity in the study's regression model.

4.1.6 Results of Multiple Linear Regression Analysis

Multiple linear regression analysis is a statistical method used to assess the influence of several independent variables on a single dependent variable. The results of the multiple linear regression analysis are presented in Table 5.

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Table 5. Results of the Multiple Linear Regression Analysis

Variable	Coefficient B	Std. Error	Beta	t-calculated	Sig.
Constant	3.660	2.837	-	1.290	0.204
Use of Integrated Social Welfare Data (DTKS) (X1)	0.055	0.142	0.048	0.384	0.703
Internal Control System (X2)	0.867	0.127	0.848	6.842	0.000

Source: *Data processed in 2026*

Based on the results of the multiple linear regression analysis, the following regression equation was obtained:

$$Y = 3.660 + 0.055\ X_1 + 0{,}867\ X_2 \quad (1)$$

- The equation shows that the variables "use of DTKS information technology" (X1) and "internal control system" (X2) have a positive effect on the prevention of fraud in the management of social assistance funds (Y). The constant value of 3.660 indicates that if the variables "use of DTKS information technology" and "internal control system" are held constant or assumed to be zero,
- The regression coefficient for the DTKS information technology utilization variable, which is 0.055, indicates that a one-unit increase in DTKS information technology utilization will increase the prevention of fraud in the management of social assistance funds by 0.055 units, assuming all other variables remain constant.
- The regression coefficient for the internal control system variable, which is 0.867, indicates that a one-unit increase in the internal control system will increase the prevention of fraud in the management of social assistance funds by 0.867 units.

4.1.7 Results of the Partial Test (t-Test)

Hypothesis testing was conducted using a t-test (partial) to determine whether the independent variable had a significant effect on the dependent variable. Based on the results of the t-test, the variable "use of information technology" (X1) had a calculated t-value of 0.384 with a significance level of 0.703 > 0.05; therefore, it can be concluded that the use of information technology in the DTKS does not have a significant effect on preventing fraud in the management of social assistance funds. Thus, the hypothesis is rejected. The internal control system variable (X2) has a calculated t-value of 6.842 with a significance level of 0.000 < 0.05; therefore, it can be concluded that the internal control system has a positive and significant effect on the prevention of fraud in the management of social assistance funds. Thus, the hypothesis is accepted.

4.1.8 Results of the Simultaneous Test (F-Test)

The F-test (simultaneous) is used to determine whether the independent variables collectively have an effect on the dependent variable.

Table 6. Results of the Simultaneous Test (F-Test)

Sources of Variation	Sum of Squares	df	Mean Square	F-calculated	Sig.
Regresi	2778.147	2	1389.074	79.718	0.000
Residual	749.267	43	17.425	-	-
Total	3527.414	45	-	-	-

Source: *Data processed in 2026*

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Based on the F-test results, the calculated F-value was 79.718 with a significance level of 0.000. Since the significance value is less than 0.05 (0.000 < 0.05), it can be concluded that DTKS information technology utilization and the internal control system have a significant effect on the prevention of fraud in the management of social assistance funds at the Gorontalo Provincial Social Affairs Office.

4.1.9 Results of the Coefficient of Determination Test R^2

The purpose of testing the coefficient of determination is to assess how well the model explains the dependent variable.

Table 7. Results of the Coefficient of Determination Test R^2

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.887	0.788	0.778	4.174

Source: *Data processed in 2026*

Based on the results of the coefficient of determination (R^2) test, an R-squared value of 0.788 (78.8%) was obtained. This indicates that the variables of DTKS information technology utilization and internal control systems account for 78.8% of the effect on the prevention of fraud in the management of social assistance funds. In comparison, other variables outside the scope of this research model influence the remaining 21.2%.

4.2 Discussion

4.2.1 The Impact of Utilizing the Integrated Social Welfare Data (DTKS) on Fraud Prevention in the Management of Social Assistance Funds

The research results show that the use of the Integrated Social Welfare Data (DTKS) does not significantly prevent fraud in the management of social assistance funds. These findings indicate that the existence of the DTKS has not yet been able to serve as a primary factor that directly prevents fraud in the management of social assistance. Descriptively, the DTKS utilization variable recorded a percentage of 69.97%, the lowest among the variables. Additionally, the utilization frequency indicator also showed the lowest value, indicating that the DTKS has not yet been optimally utilized to support the processes of verification, validation, monitoring, and decision-making related to the distribution of social assistance.

These findings suggest that the effectiveness of the DTKS is determined not only by the existence of the system or the availability of digital data, but also by data quality, the frequency of updates, the accuracy of field verification, and officials' capacity to utilize the available information. In other words, the existence of the DTKS as an information system does not automatically prevent fraud if the stored data does not fully reflect the actual conditions of the beneficiary population.

The results of this study reinforce a phenomenon still observed in social assistance management: the occurrence of inclusion errors and exclusion errors. An inclusion error occurs when individuals who do not meet welfare criteria are still listed as recipients of assistance. In contrast, an exclusion error occurs when those eligible for assistance are not registered in the system. These conditions indicate that the primary issue lies not in the existence of the DTKS as a system, but in the

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quality of data governance that underpins decision-making. Therefore, the DTKS serves more as an administrative tool and a social welfare database than as a direct mechanism for fraud control.

These findings also illustrate that a lack of information technology does not always cause fraud in social assistance management; rather, it can stem from weaknesses in the processes for data verification, validation, and updating. Although the data has been digitized, potential irregularities can still occur if there are delays in data updates, discrepancies in field information, or weak coordination between the central and local governments. Thus, data digitization through the DTKS is insufficient to prevent fraud without adequate oversight and control mechanisms.

The findings of this study are inconsistent with the research by Wiguna and Sofie (2023), which found that information technology has a positive and significant effect on fraud prevention. This discrepancy in results may be due to differences in the characteristics of the research subjects. The study by Wiguna and Sofie (2023) positioned information technology as an organizational operational tool designed to enhance the efficiency and transparency of work processes. Meanwhile, this study examines the DTKS, which functions not only as an information system but also as a social welfare database that is highly dependent on the quality of data updates and administrative verification. Therefore, the effectiveness of the DTKS is determined not only by the technology used but also by the quality of the accompanying data governance.

From the perspective of Agency Theory, the DTKS should be able to reduce information asymmetry between the government, as the principal, and civil servants, as the agents, by providing more accurate and transparent information. However, these benefits cannot be fully realized if the data used is not entirely valid, up to date, and aligned with the community's actual conditions. Consequently, information asymmetry can still occur even when an information system is in place. Furthermore, based on the Fraud Triangle Theory, these findings indicate that the element of opportunity can still arise from poor data quality, limitations in the verification process, and suboptimal utilization of the DTKS to support decision-making. Thus, the results of this study confirm that the mere existence of the DTKS is not sufficient to prevent fraud. Fraud prevention requires a combination of high-quality data, continuous verification processes, and effective internal control systems to minimize the likelihood of irregularities.

4.2.2 The Impact of Internal Control Systems on the Prevention of Fraud in the Management of Social Assistance Funds

The results of the study show that the Internal Control System (ICS) has a positive and significant effect on preventing fraud in the management of social assistance funds. These findings indicate that the effectiveness of fraud prevention is greatly influenced by the quality of the oversight, control, and monitoring mechanisms implemented within an organization. Descriptive analysis shows that the Internal Control System variable achieved a percentage of 76.42%, the highest among the variables. All indicators comprising this variable also showed relatively high values, with the control environment receiving the highest rating.

These findings suggest that fraud prevention in social assistance management is determined more by the effectiveness of control processes than by the mere existence of information systems. Although organizations have access to data and technology, opportunities for fraud can still arise if adequate oversight mechanisms are not in place. Therefore, the existence of the SPI serves as the

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primary instrument ensuring that all social assistance management processes are conducted in accordance with applicable procedures, regulations, and principles of accountability.

Respondents' high ratings of the control environment indicate that aspects of leadership, integrity, commitment to rules, and organizational culture have served as the primary foundation for reducing the potential for irregularities. Additionally, the high scores for the information and communication indicators suggest that the dissemination of information related to social assistance management has been relatively effective, thereby supporting the implementation of control functions.

From the perspective of the Fraud Triangle Theory, these research findings reinforce the view that opportunity is the most controllable factor in preventing fraud. An effective SPI can narrow this opportunity through clear segregation of duties, authorization mechanisms, verification procedures, tiered oversight, and periodic evaluations of social assistance program implementation. The stronger the control system in place, the smaller the opportunity for individuals to commit misconduct, even if they have access to organizational data and resources.

Based on Agency Theory, the SPI also serves as a supervisory mechanism that mitigates potential conflicts of interest between the government, as the principal, and civil servants, as the agents. The existence of the SPI helps ensure that civil servants perform their duties in accordance with organizational objectives and minimizes opportunistic behavior that could harm the public interest. Thus, SPI serves to enhance accountability, transparency, and compliance in the management of social assistance.

These research findings are consistent with studies by Fitriyani and Sinaga (2022) and Pomanto *et al.,* (2024), which found that internal control systems have a positive and significant effect on fraud prevention. These consistent results indicate that the effectiveness of internal controls consistently enhances fraud prevention across various organizational contexts. In the context of social assistance, these findings underscore that strengthening oversight and controls is a more effective strategy for preventing fraud than relying solely on data digitization or information systems.

4.2.3 The Impact of the Use of the Integrated Social Welfare Data System (DTKS) and the Internal Control System on Fraud Prevention in the Management of Social Assistance Funds

The research results show that the simultaneous use of the Integrated Social Welfare Data (DTKS) and the Internal Control System has a significant effect on preventing fraud in the management of social assistance funds. These findings indicate that a single approach cannot achieve fraud prevention; rather, it requires a combination of sound data governance and effective control mechanisms. Although the DTKS alone does not have a significant effect on fraud prevention, the results of the simultaneous analysis show that the DTKS still contributes when integrated with the Internal Control System. This finding indicates that the DTKS plays an indirect role in fraud prevention. DTKS provides the data and information needed in the decision-making process. At the same time, the Internal Control System (SPI) ensures that this data is used appropriately through adequate oversight, verification, and evaluation mechanisms.

These results demonstrate that the success of fraud prevention is not determined by the quality of technology alone, but by an organization's ability to integrate technology with effective control systems. In other words, DTKS functions as an information provider, while SPI functions as a mechanism to ensure that this information is used accountably and in accordance with applicable regulations.

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These findings are relevant to the ongoing occurrence of inclusion and exclusion errors, as well as inaccuracies in the targeting of social assistance recipients. These issues indicate that the DTKS data is insufficient to ensure accurate beneficiary targeting without ongoing verification, validation, and oversight. Therefore, the effectiveness of the DTKS is highly dependent on the presence of SPI, which helps ensure data quality and the consistent implementation of social assistance management procedures. From the perspective of Agency Theory, the combination of DTKS and SPI can reduce information asymmetry between the government, as the principal, and government officials, as the agents. The DTKS provides access to more structured and documented information, while the SPI ensures that this information is used transparently and accountably. The synergy between these two instruments can enhance accountability in social assistance management. Meanwhile, based on the Fraud Triangle Theory, the combination of DTKS and SPI can narrow the opportunity for fraud through two complementary mechanisms. DTKS improves information quality and reduces data uncertainty, while SPI monitors, controls, and evaluates the implementation of social assistance programs. Therefore, the opportunity for fraud can be reduced more effectively when these two instruments are applied simultaneously.

This study aligns with the findings of Made *et al.,* (2025), which show that internal control systems and information technology simultaneously have a positive effect on fraud prevention. However, this study makes a more specific contribution by demonstrating that, in the context of social assistance management, the DTKS cannot be viewed merely as information technology. The DTKS is better understood as a social welfare database and an administrative verification tool, whose effectiveness is highly dependent on the quality of the organization's internal controls. These findings reinforce the argument that successful fraud prevention in social assistance management requires integrating effective data governance and control systems.

5. Concluding Remarks and Recommendation

This study aims to analyze the effects of using the Integrated Social Welfare Data (DTKS) and the Internal Control System (SPI) on preventing fraud in the management of social assistance funds at the Gorontalo Provincial Social Affairs Office. The study employs a quantitative approach using survey methods and multiple linear regression analysis. The results indicate that, when considered in isolation, the use of DTKS does not significantly prevent fraud in the management of social assistance funds. This finding suggests that the existence of DTKS alone is not yet sufficient to directly prevent fraud if issues related to data quality, information validity, and the process of updating social assistance recipient data persist. Conversely, the Internal Control System was found to have a positive and significant effect on fraud prevention. Furthermore, the DTKS and the Internal Control System simultaneously have a significant effect on fraud prevention, suggesting that effective social assistance management requires a combination of good data governance and adequate control mechanisms.

This study makes a theoretical contribution by expanding understanding of fraud prevention in the public sector through the integration of Agency Theory and the Fraud Triangle perspectives in the context of social assistance management. The novelty of this research lies in positioning the DTKS not merely as information technology but as a social welfare database, an information system, and an administrative verification tool used in determining social assistance recipients. In practice, the research findings indicate that fraud prevention efforts cannot rely solely on data digitization but must be

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supported by strengthening an effective Internal Control System. From a policy perspective, this study underscores the importance of improving the quality of DTKS data, regularly updating the data, strengthening verification and validation processes, and enhancing the competence of civil servants to support transparent, accountable, and targeted social assistance governance.

This study has several limitations. First, the study was conducted only at the Gorontalo Provincial Social Affairs Office; therefore, the results cannot yet be generalized to all social assistance management agencies in Indonesia. Second, the research data were obtained through questionnaires, so the results still depend on the respondents' perceptions. Third, the research variables were limited to the utilization of the DTKS and the Internal Control System. At the same time, other factors—such as organizational culture, human resource competencies, organizational commitment, external oversight, and the use of other digital technologies—were not analyzed. Therefore, future research is recommended to expand the study's geographical scope, use a larger sample size, and combine quantitative and qualitative approaches (mixed methods) to gain a more comprehensive understanding of the factors influencing fraud prevention in social assistance management. In addition, future research could examine the roles of data quality, the effectiveness of verification processes, and DTKS governance as mediating or moderating variables in public-sector fraud prevention models.

Statement of Use of Generative AI

During the preparation of this work, the author used generative artificial intelligence tools to support the scientific writing process. Grammarly was used to check grammar, refine writing style, and improve clarity in scientific writing. All interpretations, analyses, and conclusions presented in this study are the sole responsibility of the author.

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