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The Effect Of The Implementation Of The Regional Government Information System (Sipd) And The Quality Of Human Resources On The Effectiveness Of Regional Financial Management In Siak Regency

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Abstract

This study aims to analyze the effect of the implementation of the Regional Government Information System (SIPD) and the quality of human resources on the effectiveness of regional financial management in Siak Regency, both partially and simultaneously. This study used a quantitative approach with primary data obtained through questionnaires distributed to PPK-SKPD officers, treasurers, and accounting staff across 26 Regional Apparatus Organizations in Siak Regency, with 39 questionnaires meeting the data requirements for analysis. Hypothesis testing was conducted using multiple linear regression analysis with the assistance of IBM SPSS 27 software. The results indicate that the implementation of SIPD has a positive and significant effect on the effectiveness of regional financial management, the quality of human resources has a positive and significant effect on the effectiveness of regional financial management, and simultaneously both variables have a significant positive effect on the effectiveness of regional financial management in Siak Regency, contributing 66.1 percent. These findings confirm that the implementation of SIPD and the quality of human resources are important factors in improving the effectiveness of regional financial management.

Keywords: Regional Government Information System, Quality of Human Resources, Effectiveness of Regional Financial Management

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INTRODUCTION

Effective regional financial management is one of the main pillars in realizing good governance. Along with the increasingly broad devolution of authority to regional governments as mandated in Law Number 23 of 2014 on Regional Government, regional governments are required to be able to manage finances transparently, accountably, efficiently, and effectively in order to provide optimal public services to the community. One strategic instrument developed by the central government to support regional financial management is the Regional Government Information System (SIPD), which is regulated through Minister of Home Affairs Regulation Number 70 of 2019.

Siak Regency is one of the regencies in Riau Province that continues to transform its governance through the utilization of information technology, particularly in regional financial management. The Siak Regency Government has implemented SIPD as an integrated system used in the process of planning, budgeting, administration, accounting, reporting, and accountability of regional finances. This commitment is also reflected in public information disclosure through the official Regional Financial Management Index (IPKD) portal, which regularly publishes Regional Government Financial Reports (LKPD), Budget Realization Reports (LRA), Notes to Financial Statements (CaLK), and audit opinion documents.

Previous studies show varied results regarding the effectiveness of SIPD in various regions. The Secretariat of the West Java Provincial DPRD showed that SIPD helps manage financial data in a structured manner, although server instability and lack of system integration still hinder its effectiveness optimally (Septiani & Isnawaty, 2025). At the Regional Financial and Asset Management Agency of Central Lombok Regency, the regional financial management information system was proven to have a significant effect on the effectiveness of regional financial management (Pratommi, 2023), and at RSUD Asy-Syifa' West Sumbawa, the implementation of SIPD was proven to have a significant effect on the flexibility of the financial management pattern of the Regional Public Service Agency (Bustanuddin, Yamin & Zulkieflimansyah, 2023). Nevertheless, the implementation of SIPD has not been evenly distributed; in North Sulawesi Province, disparities in financial management accountability between regions were still found, influenced by human resource capacity, technological infrastructure, and institutional readiness (Kalay et al., 2025).

In addition to technological factors, the quality of human resources (HR) is a crucial variable that determines the success of regional financial management. Regional financial management must be supported by HR with an educational background relevant to the financial field, who have attended related education and training, and who have sufficient field experience (Faisyah et al., 2026). At the Bukittinggi City Finance Agency, human resource competence was proven to have a positive and significant effect on

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apparatus performance, and the implementation of the SIPD application had a positive effect on HR competence (Rahmadani et al., 2024). The optimization of SIPD and the Government Internal Control System (SPIP) in improving the quality of financial reports is also highly dependent on adequate HR competence (Naida, 2024).

Siak Regency has a fairly large regional revenue and expenditure budget, including oil and gas revenue-sharing funds, which requires increasingly accountable and transparent financial management. However, the implementation of SIPD in the field is not free from various challenges, including delays in the payment of honorariums and Employee Additional Income (TPP) throughout 2025 due to limited regional cash conditions, which at certain points were reported to reach around IDR 7,000,000,000 in October 2025 (Riau Pos). This condition is exacerbated by competency gaps among employees, where younger employees tend to adapt more quickly to technology, while senior staff experience a slower learning curve (Septiani & Isnawaty, 2025).

Previous studies have generally been conducted in other regions of Indonesia and mostly examine SIPD or HR quality separately, resulting in a research gap regarding the specific conditions in Siak Regency that examine the simultaneous effect of both variables. Based on the above description, this study aims to analyze the effect of the implementation of SIPD and the quality of human resources on the effectiveness of regional financial management in Siak Regency, both partially and simultaneously.

The originality and contribution of this study lie in the simultaneous testing of two determinants of the effectiveness of regional financial management, namely the technological factor (SIPD) and the human factor (HR quality), in the object of Siak Regency, which has distinctive fiscal characteristics in the form of dependence on oil and gas revenue-sharing funds and real regional cash flow pressures that occurred throughout 2025. Similar previous studies have largely been conducted at Regional Financial and Asset Management Agencies in major cities on the islands of Java and Sulawesi, so the generalization of findings to regencies with natural-resource-based revenue structures in Riau Province remains limited. Thus, this study is expected to provide additional empirical evidence regarding the relevance of Stewardship Theory in the context of regions with such specific fiscal pressures, while also serving as a practical reference for formulating policies to strengthen apparatus capacity and financial information systems in regency governments with similar characteristics.

Specifically, this study is formulated to answer three research questions, namely whether the implementation of SIPD affects the effectiveness of regional financial management in Siak Regency, whether the quality of human resources affects the effectiveness of regional financial management in Siak Regency, and whether the implementation of SIPD and the quality of human resources simultaneously affect the effectiveness of regional financial management in Siak Regency. This study is limited to

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the technical and operational evaluation of SIPD implementation and HR quality in terms of education, participation in training, and work experience, with the research subjects covering all Regional Apparatus Organizations within the Siak Regency Government. The results of this study are expected to provide theoretical contributions to the development of studies in Public Sector Accounting, Government Information Systems, and Human Resource Management, as well as practical contributions for the Siak Regency Government in formulating policies to strengthen transparent, accountable, effective, and efficient regional financial governance in accordance with the principles of good governance.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Stewardship Theory

Stewardship theory views that managers or stewards — in the context of this study, regional government apparatus — have motivations aligned with the interests of the principal, namely the community. According to this theory, steward behavior is shaped to always act in accordance with the public interest because there is intrinsic satisfaction when organizational goals are achieved (Davis, 1997). In the context of regional government, apparatus are expected to be able to manage regional resources and finances effectively, transparently, and accountably in order to achieve organizational goals. Based on Stewardship Theory, good implementation of SIPD will help apparatus carry out their responsibilities optimally so that regional financial management becomes more effective (Hendra, 2023), while competent apparatus will strive to provide the best performance because they have a sense of responsibility and commitment to achieving the goals of the regional government.

2.2 Effectiveness of Regional Financial Management

The effectiveness of regional financial management is a measure of the success of regional governments in achieving planned goals or targets by using available resources appropriately, efficiently, and accountably (Phita et al., 2025). Halim & Syam (2013) define it as the completion of activities on time within the available budget limits, including the achievement of planned goals and objectives. Based on Law Number 23 of 2014 and Government Regulation Number 12 of 2019 on Regional Financial Management, regional finances must be managed in an orderly manner, in compliance with statutory regulations, efficiently, economically, transparently, and responsibly. Indicators of the success of the effectiveness of regional financial management include the accuracy of administration, minimization of audit findings, timeliness in preparing accountability reports, and their positive correlation with the quality of public service output (Faisal, 2025).

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2.3 Regional Government Information System (SIPD)

The Regional Government Information System is a strategic tool for regional governments to present information that is useful for stakeholders, including reports on the administration of regional government, regional regulations, and accurate and accessible financial data (Nasution et al., 2021). In the public sector accounting literature, SIPD is viewed not merely as a technical application, but as a digital ecosystem that connects the stages of development planning with financial realization (Teken et al., 2024). Before the implementation of SIPD, each region tended to use various financial applications such as SIMDA or SIPKD, which caused data fragmentation and made oversight by the central government difficult. The implementation of SIPD is not only related to the use of technology, but also to changes in the apparatus's work processes, so that its success is greatly influenced by organizational readiness, the availability of information technology facilities, internet network quality, user understanding, as well as training and mentoring for apparatus.

2.4 Quality of Human Resources

The quality of human resources is a crucial element that determines the success of an organization in achieving its strategic goals, especially in the context of technology-based governance (Naida, 2024). In the public sector accounting literature, HR quality is measured through three main interactive dimensions, namely the level of formal education aligned with the field of duty, technical training and education (diklat) that updates apparatus knowledge of changes in regulations and technology, and work experience that provides practical expertise in solving daily operational problems (Naida, 2024). Human resource competence is defined as the knowledge, skills, abilities, and personality characteristics that directly affect performance (Mangkunegara, 2005). Apparatus with high competence have a faster ability to adapt to changes in the work environment, so that financial management becomes more accurate, timely, and free from fatal errors (Yamin et al., 2023).

2.5 Previous Research

Several previous studies support the relationship between the implementation of financial information systems, HR competence, and the effectiveness of regional financial management. Syahdi & Bijaang (2018) found that the implementation of SIPKD and employee competence, both simultaneously and partially, had a significant positive effect on the effectiveness of regional financial management at BPKAD Palopo City. Kalay et al. (2025) showed that the implementation of SIPD had a significant positive effect in reducing disparities in regional financial management accountability in North Sulawesi Province. Rahmadani & Khairul (2024) proved that HR competence had a significant

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positive effect on apparatus performance, and the implementation of SIPD had a positive effect on HR competence at the Bukittinggi City Finance Agency. Meanwhile, Bustanuddin, Yamin & Zulkieflimansyah (2023) showed that SIPD had a significant positive effect on the flexibility of BLUD financial management at RSUD Asy-Syifa' West Sumbawa, although there were obstacles in the form of SIPD menus that did not yet fully accommodate BLUD needs.

In addition to Stewardship Theory, this study also considers the Agency Theory perspective as a complement to explain the relationship between regional governments as agents and the central government and the community as principals in the context of implementing regional government information systems. Within this framework, the implementation of SIPD is viewed as a mechanism used by the agent to reduce information asymmetry with the principal, while also proving that public resources are managed in accordance with the interests of the community. Nevertheless, this study still places Stewardship Theory as the main grand theory because it is more relevant to the context of civil servants who are normatively positioned as public servants oriented toward shared interests, rather than merely actors who need to be supervised because their personal interests may potentially differ from organizational interests.

Table 7. Summary of Relevant Previous Research

Researcher (Year)	Research Variables	Main Results
Syahdi & Bijaang (2018)	Implementation of SIPKD; Employee Competence; Effectiveness of Regional Financial Management	SIPKD and employee competence have a significant positive effect, both simultaneously and partially
Kalay et al. (2025)	Implementation of SIPD; Disparity in Regional Financial Management Accountability	SIPD has a significant positive effect in reducing disparities between regions
Rahmadani & Khairul (2024)	HR Competence; Implementation of SIPD; Apparatus Performance	HR competence has a positive effect on performance; SIPD has a positive effect on HR competence
Rizka, Zamzami & Gowon (2021)	HR Competence; SPI; Quality of Financial Reports	HR competence and the success of SIPKD have a significant positive effect on the quality of financial reports
Bustanuddin, Yamin & Zulkieflimansyah (2023)	Implementation of SIPD; Flexibility of BLUD Financial Management	SIPD has a significant positive effect; obstacles in menus that do not yet accommodate BLUD needs

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Researcher (Year)	Research Variables	Main Results
Septiani & Isnawaty (2025)	Effectiveness of SIPD; Regional Financial Management	SIPD helps administrative efficiency, but implementation is not yet fully optimal

Source: Data processed by the researcher, 2026

2.6 Conceptual Framework

Based on the theoretical foundation and previous research, this study uses Stewardship Theory as the grand theory that explains the role of the Siak Regency Government as a steward responsible for managing regional finances transparently and accountably. The implementation of SIPD (X1) and the Quality of Human Resources (X2) are positioned as independent variables that affect the Effectiveness of Regional Financial Management of Siak Regency (Y) as the dependent variable, both partially and simultaneously.

2.7 Hypothesis Development

In Stewardship Theory, the steward is obliged to provide clear accountability to the principal. With SIPD, the financial management process becomes more transparent, real-time, and integrated, thereby reducing room for opportunistic behavior. Research by Syahdi & Bijaang (2018), Kalay et al. (2025), Teken et al. (2024), and Yamin et al. (2023) indicates that the implementation of SIPD has a positive effect on the effectiveness of regional financial management. Based on this description, the first hypothesis is formulated as follows.

H1: *The implementation of the Regional Government Information System has a significant positive effect on the effectiveness of regional financial management in Siak Regency.*

According to Stewardship Theory, HR quality represents the ability and integrity of bureaucrats in carrying out their role as public servants. HR with high competence and integrity will more effectively utilize technology such as SIPD and make optimal financial decisions. Research by Syahdi & Bijaang (2018), Bitung & Ilat (2016), Naida (2024), and Yamin et al. (2023) shows that the higher the quality of human resources, the greater the ability of apparatus to carry out financial management accurately, effectively, transparently, and accountably. Based on this description, the second hypothesis is formulated as follows.

H2: *The quality of human resources has a significant positive effect on the effectiveness of regional financial management in Siak Regency.*

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The effectiveness of regional financial management is not only measured by compliance with regulations, but also by the achievement of organizational goals. If the steward is motivated for the public interest, supported by a transparent system, and supported by adequate HR capability, financial management will become more effective. SIPD provides integrated digital infrastructure, but optimal financial output is highly dependent on user competence in utilizing the system. Based on this description, the third hypothesis is formulated as follows.

H3: *The implementation of the Regional Government Information System and the quality of human resources simultaneously have a significant positive effect on the effectiveness of regional financial management in Siak Regency.*

RESEARCH METHOD

3.1 Design and Research Location

This study uses a causal research type with a quantitative approach to test the effect of the Implementation of the Regional Government Information System (X1) and the Quality of Human Resources (X2) on the Effectiveness of Regional Financial Management (Y) at the Siak Regency Government. The research was conducted at Regional Apparatus Organizations (OPD) within the Siak Regency Government, Riau Province, considering that Siak Regency has fully implemented SIPD in the administration of its operational budget, although the effectiveness of its implementation still needs to be evaluated empirically. Data collection and research preparation were carried out from January to June 2026.

3.2 Population and Sample

The population of this study is all civil servants (ASN) directly involved in the financial management function at 26 Regional Apparatus Organizations in Siak Regency. The sampling technique used purposive sampling with respondent criteria being Financial Administration Officers (PPK-SKPD), expenditure or revenue treasurers, and accounting and budget reporting staff who actively use the SIPD application with a minimum of one year of work experience in the finance department. Based on these criteria, three representative respondents were taken from each of the 26 OPDs, resulting in a total sample of 78 respondents. Of the 78 questionnaires distributed, 39 questionnaires (50 percent) were returned complete and used in the data analysis.

3.3 Data Sources and Data Collection Techniques

The data source used is primary data obtained directly through the distribution of structured questionnaires, both in physical (hardcopy) and digital (Google Form) forms, to respondents at each OPD in Siak Regency. Questionnaire responses were measured

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using a five-point Likert scale, ranging from a score of 1 for the strongly disagree category to a score of 5 for the strongly agree category.

3.4 Operational Definition of Variables

The operational definitions of the research variables are presented in Table 1 below.

Table 1. Operational Definition of Variables

Variable	Operational Definition	Indicators
Implementation of SIPD (X1)	A single digital ecosystem that integrates all regional government administration processes (Minister of Home Affairs Regulation No. 70/2019)	Ease of access; system reliability; data accuracy quality; availability of functional menus/features
Quality of HR (X2)	The work capability, competence, and technical accounting understanding of civil servants in executing regional financial administration	Alignment of formal education; frequency of training; technical competence; work tenure/experience; understanding of duties and functions
Effectiveness of Regional Financial Management (Y)	The level of success and accuracy in achieving expenditure budget targets and regional administrative compliance (Government Regulation No. 12/2019)	Timeliness of reports; balance of budget realization; transparency of data access; accountability of cash management

Source: Data processed by the researcher, 2026

3.5 Data Analysis Technique

The data analysis technique used is multiple linear regression analysis with the assistance of IBM SPSS version 27 software, with the equation Y = b0 + b1X1 + b2X2, where Y is the Effectiveness of Regional Financial Management, X1 is the Implementation of SIPD, X2 is the Quality of Human Resources, b0 is the constant, and b1 and b2 are the regression coefficients of each independent variable. Before hypothesis testing, descriptive statistical analysis was first conducted to describe respondent characteristics and the distribution of responses for each variable, followed by data quality testing consisting of validity testing using the Pearson correlation coefficient and reliability testing using Cronbach's Alpha coefficient.

Subsequently, classical assumption testing was conducted, including a normality test using the One-Sample Kolmogorov-Smirnov nonparametric statistical test as well as

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histogram graph analysis and normal probability plots, a multicollinearity test by examining the Tolerance and Variance Inflation Factor (VIF) values, and a heteroscedasticity test using scatterplot graph analysis. This classical assumption testing is important to ensure that the resulting regression model is BLUE (Best Linear Unbiased Estimator) so that it can be used to draw valid conclusions. The final stage of data analysis is hypothesis testing conducted through a partial significance test (t-test) to test the effect of each independent variable individually, a simultaneous significance test (F-test) to test the effect of the independent variables together, and a coefficient of determination test (R^2) to determine the magnitude of the contribution of the independent variables to the dependent variable.

RESULTS AND DISCUSSION

4.1 Data Description and Respondent Characteristics

The study distributed 78 questionnaires to financial management civil servants at OPDs within the Siak Regency Government, with 39 questionnaires (50 percent) returned complete, while the rest were not returned due to respondents' busyness and time constraints in filling out the questionnaire. All 39 questionnaires received were in good condition without defective data, so all of them could be used in the data processing process. Respondent characteristics were dominated by Heads of Department, totaling 14 people (35.90 percent), followed by treasurers, totaling 13 people (33.33 percent), and PPK/SKPD, totaling 12 people (30.77 percent). By gender, male respondents numbered 21 people (53.85 percent) and female respondents 18 people (46.15 percent), indicating a relatively balanced composition in financial management positions within the Siak Regency Government.

Based on the category of work tenure in the financial field, the majority of respondents had more than 10 years of work experience, namely 26 people (66.67 percent), followed by 6–10 years of work experience, totaling 10 people (25.64 percent), and 1–5 years of work experience, totaling 3 people (7.69 percent), with no respondents having less than 1 year of work experience. This composition shows that regional financial management in Siak Regency is largely supported by senior apparatus with long experience. Meanwhile, based on the length of use of the SIPD application, the majority of respondents had used the application for 4–5 years (38.46 percent), followed by users with 1–3 years and more than 5 years of use, each totaling 11 people (28.21 percent), and users with less than 1 year of use, totaling 2 people (5.13 percent). This picture shows that the majority of respondents have sufficient experience in using SIPD, so their perceptions of the system's effectiveness can be considered fairly representative. Descriptive statistics of the research variables are presented in Table 2.

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Table 2. Descriptive Statistics of Research Variables

Variable	N	Min	Max	Mean	Std. Deviation
Effectiveness of Regional Financial Management (Y)	39	3	5	4.71	4.524
Implementation of SIPD (X1)	39	3	5	4.75	5.231
Quality of Human Resources (X2)	39	3	5	4.61	4.536

Source: SPSS 27 data processing results, 2026

4.2 Data Quality Test

Validity testing was conducted by comparing the calculated r-value with the r-table value at a significance level of 5 percent with degrees of freedom (df) of 37 (n-2), resulting in an r-table value of 0.2673. For the SIPD Implementation variable, all eight statement items had calculated r-values ranging from 0.558 to 0.773, all of which were above the r-table value. For the HR Quality variable, the calculated r-values ranged from 0.389 to 0.699, and for the Effectiveness of Regional Financial Management variable, the calculated r-values ranged from 0.397 to 0.781. Thus, all statement items for the three research variables were declared valid and suitable for use as measurement instruments. The reliability test results in Table 3 show that the Cronbach's Alpha values for all three variables were above 0.60, with the highest value for the SIPD Implementation variable at 0.804 and the lowest value for the HR Quality variable at 0.612, so the research instrument as a whole was declared reliable and consistent for measuring the research variables.

Table 3. Reliability Test Results

Variable	Cronbach's Alpha	Description
Implementation of the Regional Government Information System (SIPD)	0.804	Reliable
Quality of Human Resources (HR)	0.612	Reliable
Regional Financial Management	0.705	Reliable

Source: SPSS 27 data processing results, 2026

4.3 Classical Assumption Test

The normality test using the One-Sample Kolmogorov-Smirnov nonparametric statistical test showed a significance value (Asymp. Sig. 2-tailed) of 0.200, greater than 0.05, supported by histogram graph analysis and normal probability plots showing a balanced distribution pattern approaching the diagonal line, so the residual data was declared normally distributed. The multicollinearity test showed a Tolerance value of

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0.901 and a Variance Inflation Factor (VIF) value of 1.110 for both independent variables, meaning there was no correlation between the independent variables because the Tolerance value was above 0.10 and the VIF was below 10. The heteroscedasticity test through the scatterplot graph showed points scattered randomly above and below zero on the Y axis without forming a particular pattern, so the regression model was declared free from heteroscedasticity symptoms. Thus, all classical assumption tests were met and the regression model was suitable for use in hypothesis testing.

4.4 Hypothesis Testing

Hypothesis testing was conducted through the simultaneous significance test (F-test), the partial significance test (t-test), and the coefficient of determination test (R^2). The F-test results in Table 4 show a significance value of 0.000, less than 0.05, with a calculated F of 37.993, so H3 is accepted and the Implementation of SIPD and HR Quality simultaneously have a significant positive effect on the Effectiveness of Regional Financial Management in Siak Regency.

Table 4. Simultaneous Significance Test Results (F-Test)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	116.637	2	58.319	37.993	0.000
Residual	55.260	36	1.535		
Total	171.897	38			

Source: SPSS 27 data processing results, 2026

The t-test results in Table 5 show that the SIPD Implementation variable has a calculated t-value of 4.585 with a significance of 0.000 (< 0.05), so H1 is accepted. The HR Quality variable has a calculated t-value of 5.589 with a significance of 0.000 (< 0.05), so H2 is accepted. Both independent variables are proven to have a positive and significant partial effect on the effecti veness of regional financial management.

Table 5. Partial Significance Test Results (t-Test)

Variable	B	Std. Error	Beta	t	Sig.
(Constant)	1.057	4.214		0.251	0.803
Implementation of SIPD (X1)	0.425	0.093	0.457	4.585	0.000
Quality of HR (X2)	0.556	0.099	0.557	5.589	0.000

Source: SPSS 27 data processing results, 2026

Based on the t-test results in Table 5, the following multiple linear regression equation is obtained: Y = 1.057 + 0.425X1 + 0.556X2. This equation shows that every one-unit increase in SIPD Implementation will increase the Effectiveness of Regional Financial Management by 0.425 units, and every one-unit increase in HR Quality will increase the Effectiveness of Regional Financial Management by 0.556 units, assuming

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other variables remain constant. The larger regression coefficient of HR Quality compared to SIPD Implementation indicates that the human factor provides a relatively greater marginal contribution to the effectiveness of regional financial management in Siak Regency compared to the information system factor.

Table 6. Coefficient of Determination (R^2) Test Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.824	0.679	0.661	1.239

Source: SPSS 27 data processing results, 2026

The results of the coefficient of determination test in Table 6 show an R value of 0.824, indicating a strong relationship between SIPD Implementation and HR Quality with the Effectiveness of Regional Financial Management. The Adjusted R Square value of 0.661 indicates that 66.1 percent of the variation in the Effectiveness of Regional Financial Management can be explained by SIPD Implementation and HR Quality, while the remaining 33.9 percent is explained by other variables outside this research model, such as internal oversight, apparatus performance, and information technology infrastructure.

DISCUSSION

In general, the results of hypothesis testing in this study are consistent with all the hypotheses formulated in the literature review section, namely H1, H2, and H3 are accepted. This consistency strengthens the position of Stewardship Theory as a relevant explanatory framework for understanding the behavior of regional government apparatus in managing public finances, while also confirming that both technological and human factors are equally necessary and complementary, rather than substitutable, in realizing effective regional financial management. A detailed discussion of each hypothesis is presented as follows.

The Effect of the Implementation of the Regional Government Information System on the Effectiveness of Regional Financial Management. The test results prove that the implementation of SIPD has a positive and significant effect on the effectiveness of regional financial management in Siak Regency. The more optimal the implementation of SIPD, the higher the effectiveness of regional financial management produced. From the perspective of Stewardship Theory, SIPD functions as a technical instrument that helps the steward carry out its responsibilities optimally, transparently, and accountably to the principal. This finding is in line with Pratommi (2023), who states that a financial management information system has a significant effect on the effectiveness of regional financial management, as well as Kalay et al. (2025), who show that SIPD has a significant positive effect in reducing disparities in regional financial management

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accountability between regions. However, this finding is not entirely in line with Tumija, Hendra & Sinurat (2023), who found technical obstacles on the server and less-than-optimal training, presumably due to differences in technology infrastructure readiness between research locations.

The Effect of the Quality of Human Resources on the Effectiveness of Regional Financial Management. The test results prove that HR Quality has a positive and significant effect on the effectiveness of regional financial management. Apparatus competence, which includes adequate education, training, and work experience, directly encourages the achievement of financial effectiveness targets. Referring to Stewardship Theory, competent apparatus have a high sense of responsibility and intrinsic satisfaction when the goals of the regional government are achieved through proper financial management. This finding is consistent with Rizka, Zamzami & Gowon (2021), who assert that HR competence is a crucial factor for the quality of regional government financial reports. Nevertheless, this finding needs to be examined together with the competency gap phenomenon mentioned in the introduction, where there are still differences in learning curves between senior and younger staff in adapting to digital systems, indicating that HR quality is not yet fully evenly distributed across all work units. The Simultaneous Effect of SIPD Implementation and HR Quality on the Effectiveness of Regional Financial Management. The F-test results prove that SIPD Implementation and HR Quality simultaneously have a significant positive effect on the effectiveness of regional financial management in Siak Regency, with a contribution of 66.1 percent. This finding confirms that the effectiveness of regional financial management is the result of synergy between the sophistication of the information system used and the competence of the HR operating it, as emphasized in the Stewardship Theory framework: if the steward is motivated for the public interest, supported by a transparent system, and supported by adequate capability, financial management will become effective. This finding is in line with Syahdi & Bijaang (2018), who proved that the implementation of information systems and employee competence simultaneously have a significant effect on the effectiveness of regional financial management at BPKAD Palopo City, and strengthens the argument that both factors are complementary rather than substitutable. The Adjusted R Square value of 66.1 percent also indicates room for other variables outside the model, such as internal oversight and technology infrastructure, to be examined in future research.

This simultaneous finding is also relevant to the fiscal condition of Siak Regency mentioned in the introduction, where limited regional cash throughout 2025 demanded more precise budget management. The synergy between SIPD, which is able to present financial data in real time, and competent HR in interpreting that data, enables apparatus to make more accurate budgeting and disbursement decisions, thereby potentially

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mitigating the risk of delays in payment of obligations such as honorariums and Employee Additional Income. In other words, investment in strengthening the information system without being balanced by strengthening HR capacity, or vice versa, risks not producing optimal results for the overall effectiveness of regional financial management.

4.6 Research Implications

Theoretical Implications. The results of this study strengthen the relevance of Stewardship Theory in the context of public sector accounting at the regency government level. The finding that SIPD Implementation and HR Quality both contribute significantly and positively to the effectiveness of regional financial management shows that the steward's success in carrying out the mandate of managing public resources cannot be separated from two elements at once, namely the technical instrument (information system) and the human capability that operates it. This study also enriches the literature on SIPD implementation in Indonesia, given that research combining both variables simultaneously at the regency level, particularly outside Java Island, is still relatively limited. Empirical findings from Siak Regency can serve as a comparison for research in regions with similar fiscal characteristics, such as regions dependent on natural resource revenue-sharing funds.

Practical Implications. For the Siak Regency Government, the results of this study can serve as policy evaluation material regarding the extent to which the SIPD that has been implemented supports regional financial management, as well as a basis for decision-making related to improving information technology infrastructure. For the Regional Civil Service and Human Resource Development Agency (BKPSDM), findings regarding the significant effect of HR Quality provide an overview of the need for more targeted training or technical guidance programs, particularly to bridge the competency gap between senior and younger apparatus. For Regional Apparatus Work Units, this finding encourages the optimization of the use of SIPD features to accelerate the financial administration process and minimize errors in regional financial reporting.

More broadly, these findings are also relevant for other regencies or cities in Indonesia with characteristics similar to Siak Regency, namely regions with significant revenue sources from natural resource revenue-sharing funds but still facing challenges in equalizing apparatus competence. Siak Regency's experience in fully implementing SIPD, despite still being accompanied by fiscal challenges and competency gaps, can be a lesson for other regions regarding the importance of building HR readiness in parallel with investment in information systems, rather than treating the two as separate initiatives.

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4.7 Research Limitations

This study has several limitations that need to be considered in interpreting the results and in designing future research. First, the questionnaire return rate only reached 50 percent of the total questionnaires distributed, so the final sample size of 39 respondents is relatively limited for generalization to the entire population of financial management civil servants in Siak Regency. Second, this study only uses two independent variables, namely SIPD Implementation and HR Quality, while the Adjusted R Square value of 66.1 percent indicates that there is still 33.9 percent variation in the effectiveness of regional financial management explained by other factors outside the model, such as internal oversight, organizational culture, and leadership. Third, the research data was collected through a perceptual questionnaire, so there is a possibility of respondent perception bias regarding the actual conditions in the field. Fourth, this study is cross-sectional for the period January to June 2026, so it has not been able to capture the dynamics of changes in the effectiveness of regional financial management over time, particularly related to fluctuations in the fiscal condition of Siak Regency mentioned in the introduction.

CONCLUSION AND RECOMMENDATIONS

This study closes the research gap identified in the introduction, namely the limited empirical study on the simultaneous effect of SIPD Implementation and HR Quality on the effectiveness of regional financial management in the context of Siak Regency, a region with a revenue structure highly dependent on oil and gas revenue-sharing funds and real cash flow pressures that occurred throughout 2025. By confirming that both variables have a significant effect, both partially and simultaneously, this study provides empirical evidence that strengthens the relevance of Stewardship Theory as an analytical framework in public sector accounting at the regency government level, while also serving as an initial reference for further research in regions with similar fiscal characteristics.

5.1 Conclusion

Based on the results of the research and discussion, it can be concluded that: first, the implementation of the Regional Government Information System (SIPD) partially has a significant positive effect on the effectiveness of regional financial management in Siak Regency; second, the Quality of Human Resources partially has a significant positive effect on the effectiveness of regional financial management in Siak Regency; and third, the Implementation of SIPD and HR Quality simultaneously have a significant positive effect on the effectiveness of regional financial management in Siak Regency, with a contribution of 66.1 percent.

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5.2 Recommendations

Based on the research findings, there are several recommendations that can be conveyed to relevant stakeholders. First, for the Siak Regency Government, it is recommended to hold regular and continuous training and mentoring for regional financial management apparatus, particularly new employees with less than five years of work experience and SIPD users with less than one year of use, in order to improve understanding and skills in operating SIPD optimally. Training programs should focus on updates to regional financial regulations and the optimal use of SIPD features, and should be specifically designed to bridge the competency gap between senior and younger apparatus in adapting to digital systems.

Second, the success of SIPD implementation is highly dependent on network infrastructure stability and the availability of supporting devices. The Siak Regency Government needs to ensure the availability of stable internet access, adequate bandwidth, and supporting hardware across all Regional Apparatus Organizations, so that online regional financial management can run smoothly without recurring technical obstacles. Third, although SIPD has made a positive contribution, there is still room for improvement, particularly in adding features that can accommodate specific regional needs. The Siak Regency Government is advised to conduct periodic evaluations of SIPD implementation and provide input to the Ministry of Home Affairs regarding the development of a system that is more responsive to user needs in the regions, as well as to form a helpdesk team ready to help apparatus resolve technical obstacles that arise during the use of SIPD.

Fourth, for future researchers, it is recommended to expand the scope of research by adding other variables outside this research model, such as internal oversight, organizational culture, leadership, and technology infrastructure, in order to obtain a more comprehensive picture of the determinants of the effectiveness of regional financial management. Future research is also recommended to expand the sample size and research area coverage, as well as consider a mixed-method approach that combines questionnaire data with in-depth interviews, in order to obtain a richer understanding of the challenges of SIPD implementation and HR quality development in regional government environments with diverse fiscal characteristics.

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