JURNAL TEKNISI **E-ISSN: 2775-0965**
(Jurnal Teknologi Komputer dan Sistem Informasi)
Agustus 2025, Vol 5, No 2, Hlm. 74 – 80
Available online at http://jurnal.goretanpena.com/index.php/teknisi

ACCOUNTING INFORMATION SYSTEM FOR PETTY CASH FUND MANAGEMENT AT SDN 091621 PERDAGANGAN

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Abstract : Manual management of petty cash funds at SDN 091621 Perdagangan still faces various obstacles, such as recording errors, time inefficiency, difficulties in tracking transactions, and a lack of transparency and security of financial data. This study aims to design and implement a Microsoft Excel-based accounting information system as a practical and efficient solution to improve the performance of school financial administration. The developed system is designed to record transactions, calculate balances automatically, prepare daily and monthly financial reports, and perform regular data backups. This study uses the Research and Development (R&D) method with the ADDIE development model which includes the stages of needs analysis, system design, development, implementation, and evaluation through system trials. The test results show that the system is able to improve work efficiency, reduce the risk of recording errors, speed up the reporting process, and improve data security and reliability. In conclusion, this system can be an effective, economical, and easy-to-operate solution for elementary school administrative staff to realize more transparent, accountable, and modern petty cash fund management.

Keywords : accounting information system; efficiency; petty cash; primary school.

Abstrak : Pengelolaan dana kas kecil secara manual di SDN 091621 Perdagangan masih menghadapi berbagai kendala, seperti kesalahan pencatatan, inefisiensi waktu, kesulitan dalam pelacakan transaksi, serta kurangnya transparansi dan keamanan data keuangan. Penelitian ini bertujuan untuk merancang dan mengimplementasikan sistem informasi akuntansi berbasis Microsoft Excel sebagai solusi praktis dan efisien untuk meningkatkan kinerja administrasi keuangan sekolah. Sistem yang dikembangkan dirancang untuk mencatat transaksi, menghitung saldo secara otomatis, menyiapkan laporan keuangan harian dan bulanan, serta melakukan pencadangan data secara berkala. Penelitian ini menggunakan metode Penelitian dan Pengembangan (R&D) dengan model pengembangan ADDIE yang meliputi tahapan analisis kebutuhan, perancangan sistem, pengembangan, implementasi, dan evaluasi melalui uji coba sistem. Hasil pengujian menunjukkan bahwa sistem mampu meningkatkan efisiensi kerja, mengurangi risiko kesalahan pencatatan, mempercepat proses pelaporan, serta meningkatkan keamanan dan keandalan data. Kesimpulannya, sistem ini dapat menjadi solusi yang efektif, ekonomis, dan mudah dioperasikan bagi staf administrasi sekolah dasar untuk mewujudkan pengelolaan dana kas kecil yang lebih transparan, akuntabel, dan modern.

Kata Kunci : efisiensi; kas kecil; sekolah dasar; sistem informasi akuntansi.

INTRODUCTION

Petty cash management is a crucial aspect of financial administration in educational institutions, including SDN 091621 Perdagangan. Petty cash funds are used to cover relatively small but frequent daily operational expenses, such as stationery purchases, transportation payments, and other urgent needs. However, manual petty cash management often presents challenges, such as recording errors, difficulty tracking transactions, and a lack of transparency in financial reporting.

According to research conducted by Supriyatna, Carolina, and Widiati (2021), manual recording in petty cash management carries a high risk of human error, both in data input and in financial reporting. This is exacerbated by the lack of a robust control system, which makes it difficult to monitor transactions. Furthermore, another study by Martha and Violeta (2019) showed that the lack of a computerized system for petty cash management can lead to inefficiencies in financial reporting.

With the advancement of information technology, computer-based accounting information systems can be an effective solution for managing petty cash funds. These systems enable more accurate transaction recording, simplify financial reporting, and increase transparency and accountability in school finances. According to research by Djauhar, Sondakh, and Kalalo (2021), implementing an accounting information system in petty cash management can increase administrative efficiency by up to 50% and reduce recording errors by up to 70%. Therefore, this study aims to design and develop an accounting information system for managing petty cash funds at SDN 091621 Perdagangan to improve the efficiency of school financial administration.

The implementation of an accounting information system for managing petty cash funds also aligns with the government's policy of digitalizing school administration. A computerized system allows for real-time financial recording, streamlining the audit process, and enabling faster and more accurate data access.

Previous study Putri, T. R., & Trisnaningsih, S. (2025). The Effectiveness of Digitizing Transaction Documents in Supporting Petty Cash Vouching Procedures. International Journal of Economics, Management and Accounting, 2(4), 70–77. DOI:10.61132/ijema.v2i4.810. This study evaluates the effectiveness of digitizing transaction documents in supporting petty cash vouching procedures.

The novelty of this research in the development and implementation of a Microsoft Excel-based accounting information system specifically designed for managing petty cash funds in an elementary school, namely SDN 091621 Perdagangan. Unlike previous studies that primarily discussed accounting information systems using complex software or web- and mobile-based tools (e.g., in the studies by Pratiwia et al., 2025 and Waziana & Saputra, 2023),

This study utilizes a simple yet powerful platform—Excel—that is more accessible and usable by school administrative staff unfamiliar with sophisticated digital systems. Furthermore, the developed system is equipped with transaction automation features, real-time balance calculations, input validation, category-based recording, and a daily backup system, which have not been widely adopted in previous similar studies.

This approach not only improves efficiency and accuracy but also strengthens the security and traceability of school financial data in a practical and economical manner. Thus, this research makes a significant contribution to addressing the need for an adaptive, easy-to-use digital solution in elementary schools that enhances transparency and accountability in the management of small-scale operational funds.

Furthermore, data security is also a crucial factor in managing petty cash funds. Using manual recordkeeping carries the risk of document loss or damage due to external factors such as fire, flood, or theft. With a digital system, data can be stored more securely using encryption and automatic backup features.

Based on the problems described, this study aims to design and develop an accounting information system that can assist SDN 091621 Perdagangan in managing petty cash funds more effectively and efficiently.

This research will include system requirements analysis, system architecture design, and testing the effectiveness of the system's implementation in recording and

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reporting school finances. With this system, it is hoped that petty cash fund management can be more transparent and accountable, supporting efficiency in school financial management.

Study This carried out at SDN 091621 Trading which is still use manual system . The goal is For design and implement system information accountancy Excel -based to improve efficiency , transparency , and security in petty cash fund management .

METHOD

This type of research is Research and Development (R&D) with the ADDIE development model which includes:

1. Analysis: Observation and interviews at SDN 091621 to understand the flow and problems of petty cash management.
2. Design: Design the interface and data structure of an Excel-based system.
3. Development: Implementation of transaction input features, automatic balance calculations, and reporting.
4. Implementation: System trial by the school treasurer.
5. Evaluation: Testing using black-box testing and usability testing methods.

Table 1. Data Collection Techniques

TECHNIQUE	INFORMATION
Observation	Observing the ongoing petty cash management process
Interview	Treasurer and head school
Documentation	Petty cash book, transaction evidence, financial reports

RESULTS AND DISCUSSION

Analysis System Existing

Based on results observation and interviews at SDN 091621 Perdagangan , it is known that petty cash management Still done manually . The application process done through form written , recorded transaction done in cash book and evidence transaction saved in a way Physical. Balance calculations and report preparation are carried out without the support of an information system, relying on manual calculations and simple word processing applications.

The main problems identified include:

Recording and reporting process is not efficient, High potential for recording and calculation errors, Difficulty in search and tracking transactions, Lack of security and risk of data loss, Absence categorization expenses and difficulties in the audit process.

System Requirements

Identified functional requirements include the system's ability to:

1. Record petty cash receipts and disbursements.
2. Grouping types of expenses by category.
3. Count balance in a way automatic .
4. Perform a transaction search based on specific criteria.
5. Create and print report periodic .
6. Store transaction evidence references and perform input validation.

Non-Functional Requirements Includes:

Data security through password protection, Convenience user –friendly, Reliability system (reliability) with automatic backup feature, Efficient performance and compatibility with device school.

Developed System

System designed in one Excel workbook with the following worksheets :

- Information dashboard balance
- Transaction input form
- Report daily and monthly
- Report based on category
- Category master data expenditure

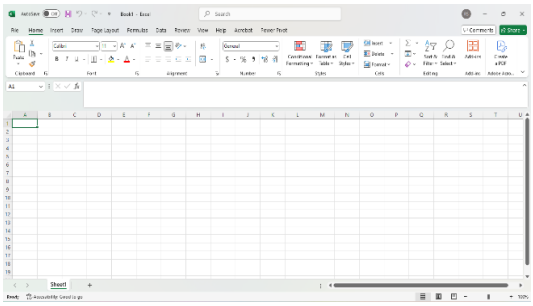

Image 1. System Dashboard View

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Main Features of the System

Automation numbering transaction, Input validation, Calculation balance in real time, Automatic data backup, Protection with password.

Table 2. Summary of System Features

Feature	Function
Transaction input	Take notes income & expenses
Count balance	Reduce risk of miscalculation
Report automatic	Daily , monthly and category formats
Data backup	Prevent data loss

Design System

System designed using Microsoft Excel because available in a way spacious , easy used by staff school , and support function automation through formulas , validation , and simple macros

Table 3. Transaction Table Structure

Field	Data Type	Information
Transaction No.	Text	Number transaction automatic (TRX-YYYYMMDD-NNN)
Date	Date	Date transaction
Type	Text	Reception or Expenditure
Category Code	Text	Category code expenditure
Description	Text	Information transaction
No Evidence	Text	Number proof transaction
Amount	Currency	Transaction value
Person responsible	Text	Name of guarantor answer
Status	Text	Transaction status (Recorded / Verified)

Recording Flow Transaction

Petty Cash Transaction Process Flow

```
mermaid

flowchart TD
    A[Input Form Transaksi] --> B{Validasi Data}
    B -- Valid --> C[Data Disimpan ke Tabel Transaksi]
    B -- Tidak Valid --> D[Tampilkan Pesan Error]
    C --> E[Perhitungan Saldo Otomatis]
    E --> F[Laporan Siap Cetak]
```

Image 2. Recording Transaction View

Security and Data Backup

To ensure security, the system uses password protection and cell locking. Each worksheet only can accessible in accordance with role user (admin or staff usual). The system is also equipped with with automatic backup feature daily as well as manual backup option via knob .

Plan Testing

Testing system done For ensure that system information accountancy cash small functioning with Good And fulfil need Which has set . Testing done with method black box testing, Which focus on functionality system without notice structure internal or method Work system
Following is plan testing :

Table 4. Plan Testing

ID	**Tested Features**	**Testing Scenario**	**Expected results**
UT001	System Login	Enter the correct password	The system opens and displays the dashboard.
UT002	System Login	Entering the wrong password	An error message appears and the system does not open.

ID	Tested Features	Testing Scenario	Expected results
UT003	Receipt Transaction Input	Fill out the acceptance form with valid data	Data saved and balance increased
UT004	Input Expenditure Transactions	Fill out the expenditure form with valid data	Data saved and balance reduced
UT005	Input Expenditure Transactions	Filling the amount of expenditure exceeding the balance	An error message appears and the data is not saved.
UT006	Daily Report Creation	Select date and generate report	The report is displayed with the appropriate data.
UT007	Monthly Report Preparation	Select the month and year for the report	Monthly reports are displayed with appropriate data.
UT008	Data Search	Search for transactions by category	Displays transaction data according to category
UT009	Report Printing	Print daily reports	Printed reports in the correct format
UT010	Data Backup	Perform data backup	Backup files are saved with the correct names.

Test Results

Functional test show all over feature walk with Good . The system is considered easy to use by non-technical users. Reporting processes that previously took 2–3 days can now be completed in minutes.

Table 5. Trial Summary

No	Test Scenario	Results
1	Valid transaction input	Succeed
2	Amount exceed balance	Appear warning
3	Report daily	Accurate and automatic
4	Data backup	Backup file succeed made

Evaluation Results Testing

Based on results testing , can concluded that system information accountancy For management funds cash small in SDN 091621 Trading has functioning in accordance with need Which has set . All feature main Work with Good And No found error Which significant .

A number of notes evaluation from testing :

a. Performance system very Good on computer with specification minimum set
b. Interface users assessed Enough intuitive and easy understood by staff administration
c. Validation data functioning with Good in prevent error input
d. Calculation balance And manufacturing report accurate And consistent
e. The security feature with password protection works well in limiting access.
   Some minor improvement suggestions: add notification feature for petty cash balances that are nearly depleted, increase the speed of report generation for large amounts of data, add option For export report to PDF format

System Maintenance

In order for the system still can used optimally in term long , required procedure regular maintenance . Maintenance system in context This covering regular backup, restore, and update activities of the data and formulas used.

Backup and Restore Procedures
Daily Backup: System designed For make a copy of the file every time it is closed with a file name format that contains date , The backup location is set in a separate folder for ease of use. management archives.

Manual Backup: Can be done through "Backup" button on the Dashboard sheet, Users can choose directory save and give an appropriate file name.

Restore Data: For restore data, user only need open the backup file and save it with a new name, No need configuration special.

System Update: The system can be updated according to user needs or input**.,** Users with admin rights can add new categories, update calculation logic, or expand the scope of the report.

Support and Documentation: System equipped with guide use in the "Help" worksheet, Users are also provided with developer contacts for further technical consultation.

Before the implementation of a Microsoft Excel-based accounting information system, the petty cash fund management process at SDN 091621 Perdagangan was carried out manually using notebooks and a simple word processing application. Recording transactions was relatively time-consuming due to its repetitive and unstructured nature, and posed a high risk of recording and calculation errors. Furthermore, tracking transactions by category, date, or expense type was difficult because they were not organized in a database. Financial reporting took between 2 and 3 days to produce and often encountered challenges in presenting accurate and complete data. Data security was also severely limited due to the lack of password protection or regular backups, potentially exposing data to loss or corruption.

After the implementing the AIS-based Excel system, significant improvements were seen in various aspects. The transaction recording process became faster and more systematic through digital input forms with automatic validation, reducing the risk of input errors. Balance calculations were performed automatically using Excel formulas, saving time and ensuring the accuracy of financial data. Daily and monthly reports could be generated in minutes and could be filtered by specific categories or criteria, simplifying audits and budget monitoring. In terms of security, the system now features password protection and an automatic backup feature every time a file is closed, significantly reducing the risk of data loss. Overall, the implementation of this system has significantly improved operational efficiency, data accuracy, ease of information access, and data storage security compared to the previous manual system.

CONCLUSION

Based on results analysis, design, implementation and testing system information accountancy For petty cash fund management at SDN 091621 Perdagangan , can withdrawn conclusion as following : Improvement Efficiency Operational System information accountancy based on Microsoft Excel which has developed succeed overcome problem inefficiency time in the previous petty cash management done manually. The recording process transactions, calculations balance and creation report can done with more fast and precise .Minimize the Risk of Error. The implementation of data validation and automated calculations in the system has successfully minimized the risk of recording and calculation errors that often occur in manual systems. Input validation ensures that incoming data complies with regulations, while Excel formulas ensure calculation consistency. Ease of Data Search, the developed system provides search and filter features that facilitate the search for transaction data based on various criteria such as date, category, and description. This greatly assists in auditing and financial review processes.

SUGGESTION

Based on conclusion and evaluation to the system that has been developed, following is some suggestions for development and implementation more carry on :

- Development System Notification

Recommended For develop feature notification For petty cash balance that is approaching the minimum limit, so that treasurer school can quick submit filling return of petty cash funds before running out.

- Performance Optimization
  For data in amount big , needed optimization performance especially in manufacturing report . Usage more data structures efficient and optimized Excel formulas can increase speed data processing .
- Export Report to Other Formats
  Implementation feature export report to PDF format or other more universal formats can make it easier distribution report to various party without need open Excel file.
- Integration with System Other Finances

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