

# DEVELOPMENT OF AN INTERNAL PETTY CASH MANAGEMENT SYSTEM: A CASE STUDY OF SS MANAGEMENT CORPORATE SERVICES SDN. BHD.

Nor Adlina Md Isa<sup>1</sup>  
Mohamad Rahimi Mohamad Rosman<sup>2\*</sup>  
Nur Farah Aina Abu Hasan<sup>3</sup>

<sup>1</sup> Faculty of Information Science, Universiti Teknologi MARA Kelantan Branch, 18500 Machang, Kelantan, Malaysia (2023263308@student.uitm.edu.my)

<sup>2</sup> Faculty of Information Science, Universiti Teknologi MARA Kelantan Branch, 18500 Machang, Kelantan, Malaysia (rahimimr@uitm.edu.my)

<sup>3</sup> SS Management Corporate Services Sdn. Bhd, Jitra, Kedah, Malaysia (farahaina1302@gmail.com)

\*Corresponding author: rahimimr@uitm.edu.my

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**Abstract:** Organizations, especially Small and Medium Enterprises (SMEs), still practice manual and spreadsheet-based approaches for their internal financial processes. This poses a considerable risk to data integrity, security, and efficiency. Thus, this paper will discuss the development and implementation of an internal web-based Petty Cash Management System for SS Management Corporate Services Sdn. Bhd. exclusively. The system was implemented according to the Agile method and a Model-View-Controller (MVC) structure in the Laravel framework. MySQL was used for advanced database management. The inefficient Microsoft Excel process was successfully replaced by the proposed system, which eliminated data redundancy, calculation inaccuracies, and the risk of physical receipt storage. The system was demonstrated to be highly effective in enhancing the speed of fund claims, providing real-time financial visibility for management, and establishing a secure digital audit trail through functional testing and user acceptance. Although the system is highly effective, future improvement such as a mobile application and API connectivity, are suggested to fully automate the internal financial processes.

**Keywords:** Petty Cash Management, Internal financial system, Agile Methodology, Laravel framework, Web-based Application

## Introduction

Even though the Small and Medium Enterprises (SMEs) are the backbone of the economic sector, many of these businesses still perform their internal daily financial operations using traditional and manual methods. In terms of Information Technology (IT), the need to shift from manual record keeping to automating the systems is very important in ensuring the accuracy, security, and efficiency of the data (Jadon et al., 2026; Mnjama & Wamukoya, 2007; Sprague Jr, 1995). This study will concentrate on SS Management Corporate Services Sdn. Bhd. in Jitra,

Kedah, which previously performed its internal daily financial operations related to petty cash using a manual recording system in a Microsoft Excel spreadsheet.

The previous manual system used by the company involved administrative staff entering transaction details manually, including dates, opening balances, cash transactions, and the purposes of spending. However, this manual system was found to be extremely ineffective as the number of daily transactions increased. The company suffered from extreme operational constraints, including data redundancy, errors in calculating the balance, and a complete dependence on physical filing of documents, which made auditing extremely difficult and susceptible to losing documents. Moreover, the use of local file storage made the company's financial data extremely susceptible to damage without any automated backup system.

### *Related Work*

The use of spreadsheets software like Microsoft Excel for internal financial accounting is a common practice because of its low cost (Bose et al., 2023; Perkhofer et al., 2019). However, research in academia has identified major risks associated with this practice. For instance, errors in spreadsheets are very common, with most operational spreadsheets containing mathematical inaccuracies (Panko, 2016; Powell et al., 2008; Thorne, 2009). Manual entry generates a single point of failure in the context of petty currency, which leads to data duplication and inconsistencies and a lack of automatic validation. Furthermore, the spreadsheets also lack an audit trail feature, which makes it very challenging to trace accidentally lost or altered data.

The move from manual method to digital automation is strongly emphasized in contemporary Information Systems literature (Elhajjar et al., 2023; Silvanskaya et al., 2025). Ramniklal (2024) believe that digital companies must establish centralized databases to ensure data integrity and real-time synchronization. Generalized accounting software like Wave Apps offers cloud storage and automatic double-entry needs but it also offers extensive features like payroll and billing that make basic internal petty cash claims needlessly complicated when compared to other market options. By utilizing the Laravel framework and its Model-View-Controller (MVC) paradigm, the suggested approach solves the usability and security flaws of the old system and provides a secure and tailored process made just for the company's internal fund injections and claims.

### *Methodology*

The Agile methodology was chosen for the system development because the project requirement was dynamic and required refinement during the internship period (Appoh et al., 2022; Chan & Thong, 2009; Mnkandla & Dwolatzky, 2004; Salza et al., 2019; Wibowo & Wardhani, 2026). This approach allowed specific business rules, such as the Chief Executive Officer (CEO)'s variable "Fund Injections" identified during top management consultations, to be flexibly integrated during the development process.

The Agile methodology was divided into iterative stages, which are Planning, Designing, Developing, Testing, and Reviewing. The planning phase consisted of the identification of significant pain points with the Head of the IT Department and addressing errors in calculations and the absence of receipt storage. The design phase utilized Figma for interface mock-ups alongside Data Flow Diagram (DFD) and Entity Relationship Diagram (ERD) to map out internal database structures and user roles. While the development phase was conducted using the PHP Laravel framework, starting with user authentication modules, before complex claim logic.

### ***System design and implementation***

Visual Studio Code (VSC) was implemented as the primary development for the internal system, which was developed on the Windows 11 operating system. The PHP Laravel framework was used for the back-end development to leverage the security features that come with it while MySQL Workbench was used for the relational database.

The system design aligns with a strict role-based access control framework, which categorizes users into ‘Admin’ as the Top of Management and ‘User’ as a general staff category. The view component dynamically creates menu items based on the authenticated role. The admin dashboard provides a comprehensive management of seven modules, which are dashboard, petty cash request, opening balance, categories, budget, expenses, and reports. Admin can also inject cash, set a budget for specific categories, approve or reject request petty cash claims, and can automatically generate monthly PDF reports. On the other hand, the user dashboard is simplified to reduce error and provides a dashboard for tracking the individual request status. It also has a request menu for submitting requests and attaching digital receipts.

### ***Result and Evaluation***

Following the development phase, the system went through intensive testing and evaluation. Initial functional testing confirmed the accuracy of automated calculations for “cash in” and “cash out” transactions which guarantee that the funds were accurately deducted, and digital receipts were securely uploaded to the internal repository.

During the deployment step, the application was hosted on a local server for a live test run. A crucial review phase was implemented to assess the functionality of the user interface and to get direct feedback from the Information Technology (IT) Head of Department. The feedback of the system effectively identified the minor errors and immediately corrected them and ensured that the system was user-friendly for the non-technical staff at SS Management Corporate Services Sdn. Bhd. The system’s performance evaluation was able to show that the system successfully eliminated the calculation discrepancies that had previously affected the Excel-based process. The dashboard consistently displayed precise financial figures without requiring manual intervention, as it automatically updated the system balances in real time with each transaction.

### ***Discussion***

The implementation of this internal petty cash management system yielded significant practical implications for SS Management Corporate Services Sdn. Bhd. The primary strength of the project is the complete restoration of internal data integrity. By replacing physical document filing with the digital repository for receipts, it results a permanent searchable audit trail. It also enhanced the efficacy of the monthly reconciliation process and ensured compliance with internal financial standards. Additionally, the standardization of the expense categories simplified the process of staff handover and reducing the steep learning curve that were previously encountered by the new employees.

Despite its success, the system also has its own limitations. Since it is a web-based application, it relies completely on the internet connection; otherwise, the staff members will have limited access to the submission in the absence of internet connectivity at the office. The system is also restricted to petty cash management only. Because it does not process broader financial activities such as payroll, invoicing, or taxation, administrators still manually export and transfer the monthly summary figures into the company's primary accounting software.

### **Conclusion and future work**

The internal Petty Cash Management System has successfully achieved its objective to digitize financial record keeping for SS Management Corporate Services Sdn. Bhd. By transitioning from a fragmented, spreadsheet-based procedure to a centralized web application, the organization efficiently resolved issues of data redundancy, automated calculation errors, and the severe risks associated with physical document loss.

To further enhance the system's utility, several future developments are recommended. Developing a dedicated mobile application using frameworks like Flutter or React Native would allow staff to capture and upload receipt images instantly via smartphone cameras, providing a more seamless user experience. Secondly, integrating an Application Programming Interface (API) with the company's main accounting software is highly recommended. This would facilitate automatic ledger updates, closing the gap between minor operational expenditures and the general ledger. Finally, incorporating an automated notification system via email or WhatsApp to alert administrators when fund levels drop below a specified threshold would guarantee timely capital infusions before daily operations are interrupted.

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