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DESIGN OF AN ACCOUNTING SYSTEM USING MICROSOFT EXCEL FOR THE MSME LPK FERNAN INDO JAYA

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Abstract

This project was initiated to help LPK Fernan Indo Jaya, a vocational driving training center that still manages its finances using manual record books. As the institution's activities grew, this traditional method became increasingly inefficient, and errors occurred easily, reports took a long time to prepare, and important data had a higher risk of being lost. To address these problems, the team developed a simple accounting system using Microsoft Excel that fits the daily operational needs of the institution. The project used a qualitative descriptive approach, where information was gathered through discussions with the owner and administrative staff, direct observation of how transactions were handled, and documentation of the system once it was implemented. The Excel-based system produced from this process includes several connected sheets that make it easier to record income from training services, track expenses, and automatically generate financial reports. The results show that the new system improves accuracy, saves time, and helps the management make more informed decisions. For the students involved, this project also served as a practical learning experience in understanding user needs, designing simple applications, and applying classroom knowledge in real work situations. Overall, the project illustrates how an accessible and user-friendly accounting tool can strengthen financial management for MSMEs and support future development efforts.

Keywords: *Accounting System, Microsoft Excel, MSME, Financial Report.*

Introduction

LPK Fernan Indo Jaya is a vocational training institution established in 2010 and located in Batam, Indonesia. The institution specializes in professional driving training services and offers various flexible training packages tailored to beginners and advanced drivers. Despite its operational growth, LPK Fernan Indo Jaya still relies on manual bookkeeping using traditional record books to manage financial transactions. As operational activities become more complex, this manual approach has proven inefficient and highly prone to recording errors, inaccurate calculations, and data duplication. Furthermore, the absence of an integrated system makes it difficult to monitor revenue from different training packages and to control daily operational expenses. The preparation of financial reports also requires considerable time because the process is repetitive and not automated, while the lack of a proper backup system increases the risk of data loss or damage. Many MSMEs continue to face challenges such as inadequate financial literacy, limited access to suitable accounting software, and barriers to adoption of digital technology, resulting in a continued reliance on manual bookkeeping that is error-prone and inefficient for supporting effective business decision-making (Regita Cahyani et al., 2025). Micro, Small, and Medium Enterprises (MSMEs) play a crucial role in national economic development by generating employment opportunities and serving as a source of income for middle-income communities (Perpatih et al., 2025). Many businesses still lack adequate knowledge and support for proper financial management, making systematic recording and bookkeeping essential for providing accurate financial information to management and serving as a crucial foundation for preparing financial statements (Lim, 2022). To accommodate MSMEs with varying backgrounds, the simple accounting system adopts a simplified design that minimizes the need for specialized technical knowledge (Regita Cahyani et al., 2025). MSMEs may implement Microsoft Excel-based bookkeeping as a practical solution for financial management due to its accessibility, low implementation cost, and ability to produce automated financial reports (Sihotang et al., 2025). Excel-based simple accounting systems have been shown to effectively enhance efficiency, accuracy, and financial literacy among micro-enterprises (Saputri et al., 2025).

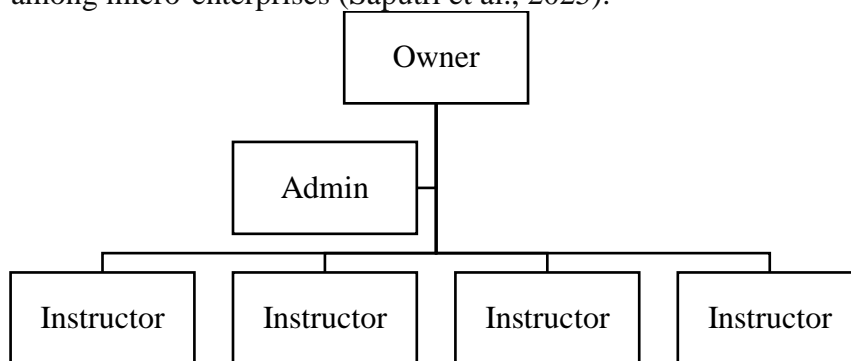


Figure 1.1 Organizational Structure of LPK Fernan Indo Jaya

LPK Fernan Indo Jaya currently lacks a structured and automated accounting system, resulting in inefficiencies, frequent recording errors, difficulties in tracking revenues and expenses, and delays in financial reporting; therefore, this project aims to design and implement a Microsoft Excel-based accounting system to improve the accuracy, efficiency, and effectiveness of the institution's financial management. Through the project of designing a Microsoft Excel accounting system, LPK Fernan Indo Jaya is expected to improve the efficiency, structure, and accuracy of its financial

management. With this system, the process of recording revenue from training participants and documenting operational expenses can be carried out more easily while avoiding the recording errors that frequently occur in manual bookkeeping. In addition, the system aims to accelerate the preparation of financial reports automatically, thereby enabling the owner to conduct evaluations and make decisions more effectively. The system is also designed to be user-friendly for administrative staff without requiring advanced technical skills, making it suitable for the needs and operational conditions of MSMEs such as LPK Fernan Indo Jaya. The benefits expected from the implementation of this community service activity are divided into two main aspects: benefits for the institution and benefits for the students. For LPK Fernan Indo Jaya, the accounting system will help increase operational efficiency in financial management, reduce the risk of data loss or damage, and speed up the routine financial reporting process. With a more structured system, the institution's management can also make financial decisions more quickly and accurately. Meanwhile, for the students, this community service activity provides hands-on experience in applying the knowledge they have gained in their academic studies to real-world work settings, particularly in user requirement analysis, database system design, and the development of simple applications that provide tangible benefits to the community service partner.

Methods

In general, researchers gather data to obtain and compile information drawn from the supporting facts found at the research site. The techniques chosen for collecting this data are closely shaped by the research methodology the researcher decides to use (Daruhadi & Sopiati, 2024). In this project using a qualitative research method with a descriptive approach aims to describe the research object and its findings by emphasizing a systematic data collection process carried out through observation, interviews, and documentation rather than focusing solely on the final conclusions (Agustira et al., 2023). The observation technique is particularly effective for studies that seek to understand human behavior, work processes, or natural phenomena (Nashrullah et al., 2023). Qualitative interviews aim to gain a deeper understanding of individuals' experiences, viewpoints, and perspectives related to the phenomenon being studied (Ardiansyah et al., 2023). First, the interview technique was carried out by speaking directly with the owner and the admin. Through these interviews, we asked questions from the initial stages to the final steps, allowing us to gather the necessary findings, which then became the basis for developing the system. Second, the observation technique involved observing and testing the system on work processes we created as it was implemented with the partner. Lastly, the documentation technique consisted of recording the final results of the system after it had been fully implemented.

Table 1. Implementation Evaluation Table

No	Kegiatan	Sept 2025				Okt 2025				Nov 2025				Des 2025			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	Pencarian dan peninjauan lokasi pengabdian masyarakat serta																

No	Kegiatan	Sept 2025				Okt 2025				Nov 2025				Des 2025			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	permohonan izin pelaksanaan																
2	Survei lokasi mitra, observasi dan wawancara dengan pemilik																
3	Penyusunan proposal pengabdian masyarakat																
4	Pengumpulan proposal dan meminta persetujuan																
5	Perancangan luaran dan revisi bersama mitra usaha																
6	Pengujian hasil rancangan luaran																
7	Implementasi dari hasil pengujian yang sudah diperbaiki																
8	Penyusunan laporan pengabdian masyarakat																
9	Revisi dan evaluasi laporan pengabdian masyarakat																
10	Finalisasi laporan pengabdian masyarakat dan artikel																

Source: Authors, 2025

Result and Discussion

The following is the output of the Excel-based accounting system that has been developed for the partner. The first section is the dashboard menu. During the design stage of this activity's output, an accounting system using Microsoft Excel was created specifically for the partner, LPK Fernan Indo Jaya. This system consists of several

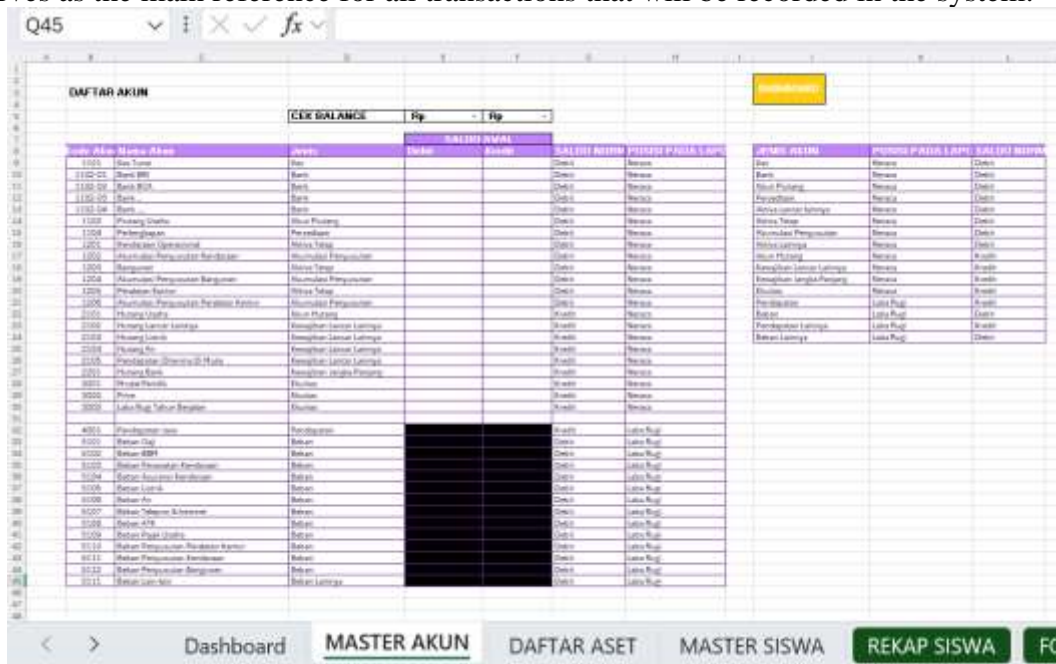
integrated worksheets (sheets) that function to simplify the process of recording financial transactions, managing assets, and automatically preparing the institution’s financial statements. The first sheet, the Dashboard, serves as the main display as well as the central navigation point for the entire system. This menu contains various interactive buttons that direct users to different parts of the system, such as the Chart of Accounts, Student Data, Statement of Financial Position, Fixed Asset Data, General Ledger, Income Statement, Completion Monitoring, Transactions, and the Recording Form. The dashboard is designed to be simple and easy to understand, featuring the institutional identity of LPK Fernan Indo Jaya at the top to clearly indicate system ownership.



Picture 1.

Dashboard Source: Authors, 2025

Next, the Master Account sheet (Chart of Accounts) functions as the central database of accounts used within the system. It contains a complete list of account codes, account names, account types, beginning balances, and each account’s position in the financial statements. This sheet is also equipped with a balance-check feature to ensure that the debit and credit sides remain in equilibrium. The information presented here serves as the main reference for all transactions that will be recorded in the system.



Picture 2.

Master Akun Source: Authors, 2025

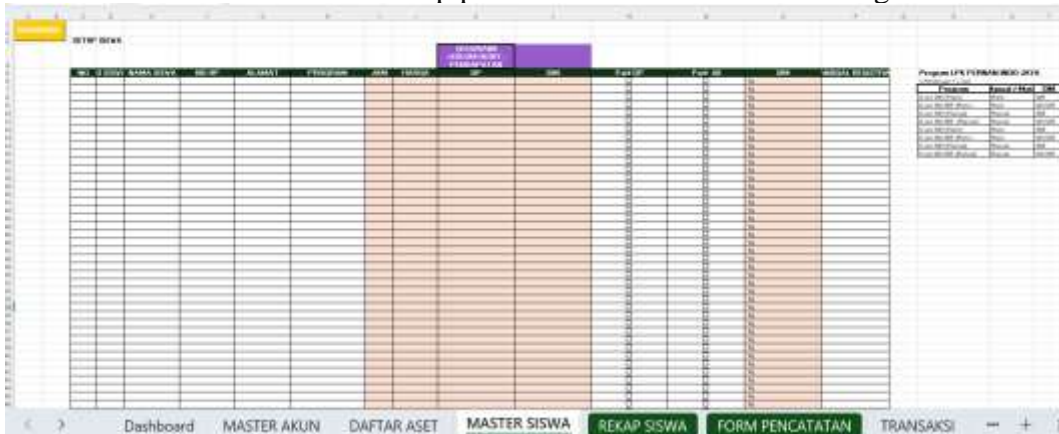
The Asset List sheet is designed to record and monitor the fixed assets owned by the institution. Its columns contain information such as the type of asset, acquisition cost, depreciation, accumulated depreciation, and the asset’s book value. The total asset value is calculated automatically based on a specific date, for example, as of December 31. This allows the institution to clearly and accurately understand the position of its fixed assets, which serves as a basis for preparing financial statements.



Picture 3.

Daftar Aset Source: Authors, 2025

Next, the Master Student sheet serves as the main database for all students at LPK. The recorded data includes student ID numbers, names, phone numbers, addresses, training programs, study hours, fees, and payment status such as down payment (DP) and full payment (Paid DP and Paid All). Additional information columns are also provided, such as driver’s license status and program type (manual or automatic). This data is linked to other sheets to streamline the recap process and transaction recording.



Picture 4.

Master Siswa Source: Authors, 2025

The Student Recap sheet functions to summarize all student activities and payments throughout the training period. The displayed data includes the student's name, date, program, price, down payment (DP), and remaining balance. In addition, there are Meeting 1–8 columns used to record attendance for each training session. The recap results include the total number of sessions attended, the total income received, and each student's payment completion status. The Student Recap sheet in this Excel system serves as the central recap area for all activities and progress made by students during the training program. Beyond financial aspects, the sheet also includes a program completion status that indicates whether the student has finished all learning sessions and is eligible to

receive a certificate. All columns within the Student Recap sheet are interconnected with data from other sheets such as the Master Student sheet, the Recording Form sheet, and the Transaction sheet. As a result, updates occur automatically based on the latest input. With this system, users no longer need to perform manual calculations or search across multiple sheets every student's information, both academic and financial, can be viewed directly and accurately in one place.



Picture 5.

Rekap Siswa Source: Authors, 2025



Picture 6.

Rekap Siswa Source: Authors, 2025

Meanwhile, the Recording Form sheet serves as the main form for documenting the institution's financial transactions. Users can record both cash receipts and cash disbursements by selecting the appropriate debit and credit accounts, along with the transaction amount and date. This sheet is also equipped with an automatic status system to minimize input errors by the partner. A note is included to remind users that entries should be made only after all student sessions have been completed, ensuring that the financial data entered is accurate and valid.



Picture 7.

Form *Pencatatan* Source: Authors, 2025

In the Transaction sheet, all financial activities are recorded chronologically based on the date, invoice number, and type of transaction. The available columns include student ID, student name, training program, as well as detailed debit, credit, and transaction amount entries. The description column is used to record additional information related to the transaction, such as tuition payments, equipment purchases, or operational expenses. With this format, users can document each transaction in a detailed and orderly manner, making it easier to track and analyze financial activities. In addition, the data from the Transaction sheet serves as the primary source that is automatically linked to the General Ledger and other financial reports, such as the income statement and the statement of financial position.



Picture 8.

Transaksi Source: Authors, 2025

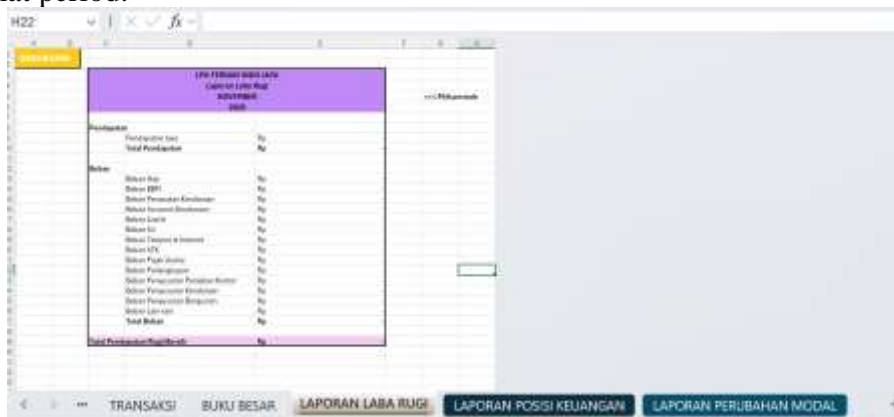
Meanwhile, the General Ledger sheet functions to display detailed account movements. Users can select an account name or account code and view the balance position (debit or credit) for each account. The table below shows a list of transactions that affect the selected account, including the date, invoice number, description, and the debit, credit, and ending balance amounts. With this system, users can monitor changes in each account's balance in real time.



Picture 9.

Buku Besar Source: Authors, 2025

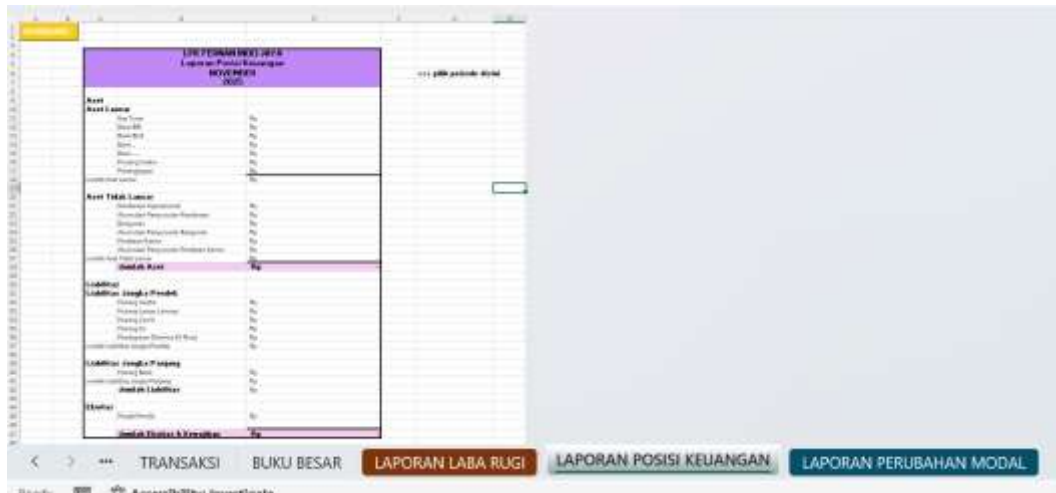
The output designed in the financial report file for LPK FERNAN INDO JAYA consists of three main sheets: the Income Statement, the Statement of Financial Position, and the Statement of Changes in Equity. In the Income Statement sheet, information regarding the institution’s financial performance for the period of November 2025 is presented, and the system has been designed to allow users to select any month and year as the reporting period. The revenue section contains data on service income earned, while the expense section includes various types of expenditure such as salaries, fuel, vehicle maintenance, insurance, electricity, water, telephone and internet, business taxes, office supplies, and asset depreciation. At the end of the report, the total net income calculation is displayed, indicating whether the institution generated a profit or experienced a loss during that period.



Picture 10.

Laporan Laba Rugi Source: Authors, 2025

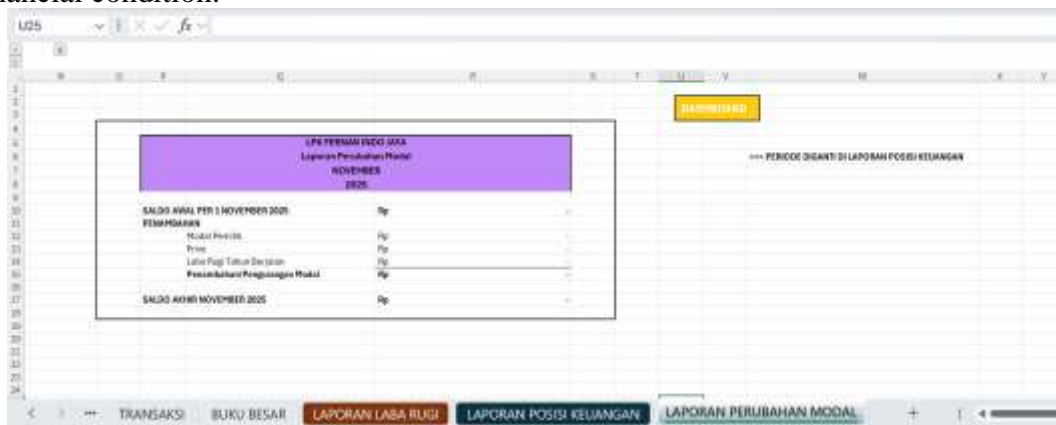
The Statement of Financial Position sheet presents an overview of the institution's financial condition for the same reporting period, November 2025. This report consists of three main components: assets, liabilities, and equity. Assets are divided into current assets such as cash, bank balances, receivables, and supplies and noncurrent assets, including equipment, vehicles, and buildings accompanied by accumulated depreciation. Liabilities include both short-term and long-term obligations, while equity represents the owner’s capital and retained earnings. At the end of the report, the statement shows the balance between total assets and the combined total of liabilities and equity.



Picture 11.

Laporan Posisi Keuangan Source: Authors, 2025

The Statement of Changes in Equity sheet functions to display changes in the owner’s equity during the period of November 2025. This report records the beginning balance of equity at the start of the month, then adds elements such as capital contributions, withdrawals (prive), current-period profit or loss, and any other additions or reductions in equity. The final result shows the ending equity balance at the end of the period. This report is also linked to the Statement of Financial Position to ensure consistent reporting periods. All three sheets are designed with a uniform appearance using light purple accents and a clean layout, making it easier to read and analyze the institution’s overall financial condition.



Picture 12.

Laporan Perubahan Modal Source: Authors, 2025

After the accounting system was implemented at LPK Fernan Indo Jaya, several improvements were observed in the institution’s financial management. First, the institution now has a more organized and automated recording system using Microsoft Excel, reducing the need for manual bookkeeping and minimizing the risk of errors in daily transaction entries. Second, the owner and administrative staff are now able to generate financial reports such as statement of profit or loss, financial position reports, and equity changes more easily at the end of each period. This provides clearer insights into the institution’s financial condition and supports more informed decision-making. Third, the system helps the institution track revenue from training programs and monitor

operational expenses in a more structured manner, allowing management to identify outstanding payments and ensure all financial records remain accurate and up to date.

Table 2. Implementation Evaluation Table

No	Partner Assessment	Before	After
1	The partner already has an appropriate accounting system.	0	4
2	The partner already has proper financial reports for decision-making.	1	4
3	The partner already has detailed records of fixed asset depreciation.	0	5
4	The classification of cash receipt and cash disbursement transaction records has been carried out neatly and accurately in the filing system.	3	4
5	The partner understands the importance of transaction recording and financial reports as a basis for decision-making.	1	4
6	The partner has knowledge of accounting.	2	4
7	The partner has a good understanding of transaction recording in the accounting system.	2	4
8	The partner understands how to analyze financial reports properly.	2	4
9	The partner has an understanding of the information contained in financial statements.	3	5

Source: Authors, 2025

Conclusions

Before this system was introduced, LPK Fernan Indo Jaya relied entirely on manual bookkeeping. As the institution grew, this method became increasingly inefficient, often led to mistakes, and made it difficult to track financial activities properly. With the adoption of the Excel-based accounting system, the institution can now prepare its financial reports with far better accuracy and in much less time. The new system has brought practical benefits for the institution. Financial records are now more structured, easier to organize, and safer from the risk of being lost or damaged. The owner and administrative staff can access clearer information, which helps them make decisions with more confidence. At the same time, the students involved in developing the system gained valuable practical experience from conducting interviews and observing work processes to designing a simple accounting tool that is genuinely used in daily operations. Looking ahead, it is important for LPK Fernan Indo Jaya to continue updating and maintaining the system so that it keeps up with the institution's needs. If required, the system can be expanded with additional features such as automated reminders, improved data protection, or even a more advanced version built on a database platform. Regular training for administrative staff will also help ensure that the system continues to be used effectively. The authors would also like to express their gratitude to LPK Fernan Indo Jaya for the trust, support, and cooperation given throughout this project.

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