

Implementation of a Web-Based Accrual Accounting Information System Using the Variable Costing Method

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Abstrak

Peningkatan pemanfaatan teknologi informasi dalam bidang akuntansi menuntut adanya sistem yang terintegrasi untuk mendukung pelaporan keuangan dan pengambilan keputusan manajerial. Banyak organisasi masih menggunakan praktik akuntansi yang terpisah atau semi-manual, sehingga membatasi akurasi, ketepatan waktu, dan nilai analitis informasi keuangan. Penelitian ini dilatarbelakangi oleh kebutuhan untuk mengimplementasikan sistem informasi akuntansi yang menerapkan prinsip akuntansi berbasis akrual sekaligus mendukung analisis biaya internal menggunakan metode variable costing. Penelitian ini mengusulkan implementasi sistem informasi akuntansi berbasis web yang mengintegrasikan pencatatan transaksi, klasifikasi biaya, pelaporan keuangan, dan analisis variable costing dalam satu platform. Kontribusi utama penelitian ini terletak pada integrasi perhitungan variable costing secara langsung ke dalam alur kerja akuntansi, sehingga memungkinkan perhitungan otomatis kontribusi margin, titik impas, dan indikator profitabilitas. Evaluasi sistem dilakukan melalui pengujian fungsional, analisis kegunaan, dan verifikasi hasil menggunakan data transaksi akuntansi nyata. Hasil penelitian menunjukkan bahwa sistem yang diimplementasikan mampu meningkatkan konsistensi data, mengurangi proses manual, dan menyediakan informasi biaya yang relevan dan tepat waktu bagi manajemen. Pengembangan selanjutnya disarankan untuk menambahkan pengelolaan peran pengguna, peningkatan keamanan, serta modul analitik lanjutan seperti penganggaran dan peramalan. Secara keseluruhan, hasil penelitian menegaskan bahwa integrasi akuntansi berbasis akrual dan variable costing dalam sistem berbasis web memberikan fondasi yang efektif bagi peningkatan manajemen keuangan dan dukungan pengambilan keputusan.

Kata kunci— Sistem Informasi Akuntansi Berbasis Akrual, Biaya Variabel, Sistem Berbasis Web, Akuntansi Manajerial, Sistem Informasi Keuangan

Abstract

The increasing adoption of information technology in accounting has emphasized the need for integrated systems that support both financial reporting and managerial decision making. Many organizations still rely on fragmented or semi-manual accounting practices, which limit the accuracy, timeliness, and analytical value of financial information. This research is motivated by the need to implement an accounting information system that applies accrual accounting principles while simultaneously supporting internal cost analysis using the variable costing method. The study proposes the implementation of a web-based accrual accounting information system that integrates transaction recording, cost classification, financial reporting, and variable costing analysis within a single platform. The main

contribution of this research lies in embedding variable costing calculations directly into the accounting workflow, enabling automatic generation of contribution margin, break-even point, and profitability indicators. System evaluation is conducted through functional testing, usability analysis, and result verification using real accounting transaction data. The results demonstrate that the implemented system improves data consistency, reduces manual processing, and enhances the availability of timely and relevant cost information for managerial decision making. Future work is recommended to extend the system with multi-user role management, enhanced security features, and advanced analytical modules such as budgeting and forecasting. Overall, the implementation confirms that integrating accrual accounting and variable costing within a web-based information system provides an effective foundation for improving financial management and decision support.

Keywords— *Accrual Accounting Information System, Variable Costing, Web-Based System, Managerial Accounting, Financial Information System*

1. INTRODUCTION

The rapid advancement of information technology has profoundly transformed the way organizations manage financial information and support managerial decision making. Accounting information systems have evolved from simple transaction recording tools into comprehensive digital platforms that integrate financial processing, reporting, and analysis within a unified environment. This evolution is driven by the increasing demand for timely, accurate, and relevant financial information to support both operational and strategic decisions. In particular, web-based accounting information systems have become increasingly popular due to their ability to provide centralized data storage, flexible access, and real-time information sharing across organizational units. Web-based platforms reduce dependence on physical infrastructure and enable financial information to be accessed securely from different locations, which is especially important in modern organizational environments characterized by dynamic operations and distributed users. At the same time, the adoption of accrual accounting principles within accounting information systems has become a critical requirement to ensure that financial information reflects the actual economic activities of an organization rather than merely cash movements. Accrual accounting recognizes revenues and expenses when they occur, regardless of when cash is received or paid, thereby providing a more comprehensive representation of financial performance and financial position. Prior studies emphasize that the integration of accrual accounting into accounting information systems significantly improves the quality, relevance, and reliability of financial reporting, particularly for organizations that require accurate performance measurement and accountability [1].

Despite the availability of various accounting information systems, many organizations continue to experience significant challenges in implementing systems that effectively support both accrual-based financial reporting and internal managerial analysis. A recurring problem is that accounting information systems are often designed primarily to meet external reporting requirements, such as financial statement preparation and regulatory compliance, while internal management needs receive less attention. In practice, cost analysis and managerial accounting activities are frequently conducted outside the accounting information system using spreadsheets or manual calculations. This fragmented approach increases the risk of data inconsistency, calculation errors, and delays in information delivery, thereby reducing the usefulness of accounting information for timely decision making [2]. Furthermore, organizations that apply accrual accounting often fail to integrate cost classification mechanisms within the accounting information system itself. As a result, management faces difficulties in clearly distinguishing between fixed and variable costs, which limits the system's ability to

support cost control, pricing decisions, and profitability analysis. These challenges are exacerbated by the lack of system integration, where accounting data are disconnected from operational data sources, leading to redundant data entry and reduced data reliability. Previous research highlights that poor system integration and limited analytical functionality significantly weaken the role of accounting information systems in supporting managerial decision making [3]. These conditions indicate a persistent gap between accounting theory and the practical implementation of accounting information systems in many organizational settings.

The main objective of this research is to implement a web-based accrual accounting information system that incorporates the variable costing method as an integral part of the system. The motivation for this research arises from the growing need for accounting information systems that not only comply with accounting standards but also provide meaningful support for internal management. Variable costing is widely recognized as an effective cost accounting method for managerial purposes because it classifies costs based on their behavior and emphasizes contribution margin analysis. By separating variable costs from fixed costs, variable costing provides clearer insights into how changes in activity levels affect profitability, making it particularly useful for short-term decision making such as pricing, cost control, and operational planning [4]. However, in many organizations, variable costing is treated as a standalone analytical technique that is applied after financial data have been processed, rather than being embedded within the accounting information system. This separation reduces the timeliness and accuracy of cost information and increases the workload associated with manual data processing. Prior studies indicate that accounting information systems that fail to integrate cost analysis methods limit management's ability to respond quickly to operational changes and financial challenges [5]. Implementing variable costing directly within a web-based accrual accounting information system is therefore expected to enhance data integration, reduce manual processing, and improve the relevance of accounting information for managerial decision making.

This research proposes an integrated solution in which accrual-based transaction processing and variable costing analysis are implemented within a single web-based accounting information system. The proposed system records financial transactions using accrual accounting principles, automatically classifies costs into fixed and variable components, and generates both financial statements and managerial cost reports within the same platform. The contribution of this study lies in demonstrating a practical system implementation that operationalizes variable costing as a built-in system function rather than as an external analytical process. By embedding variable costing calculations directly into the accounting information system, the proposed solution aims to improve data consistency, reduce processing time, and enhance the accuracy of cost information available to management. The system is evaluated through functional testing and usage-based assessment to examine its ability to process transactions correctly, generate relevant reports, and support managerial decision making. The expected results of this research include improved integration between financial reporting and cost analysis, reduced reliance on manual calculations, and enhanced transparency of cost behavior. In conclusion, this study highlights the importance of aligning accounting methods with information system capabilities and demonstrates that the implementation of a web-based accrual accounting information system using the variable costing method provides a relevant and practical foundation for improving organizational financial management and decision support.

2. METHODS

Recent studies on accounting information systems increasingly emphasize the integration of accrual accounting with managerial cost analysis in web based environments. Al Dalaien and Dalayeen examined computerized accounting systems in SMEs and found that web based platforms improve data accuracy and reporting timeliness, yet their study relied on general financial reporting without embedded cost behavior analysis [6]. Susanto analyzed accounting information system quality and demonstrated its positive effect on managerial decision making, but highlighted that most systems lack integrated cost classification mechanisms [7]. These findings indicate that system quality alone is insufficient without analytical cost support. Other research focuses on cost accounting methods within information systems. Drury discussed the relevance of variable costing for short term managerial decisions and showed its superiority over absorption costing for contribution margin analysis, although the discussion remained conceptual and not system oriented [8]. Al Mamun et al. empirically showed that variable costing information improves managerial performance, but their dataset was derived from survey based perceptions rather than system generated data [9]. Recent implementation oriented studies report that integrated accounting information systems improve organizational performance when supported by modular architectures, yet explicit integration of accrual based variable costing remains limited [10]. Overall, existing studies confirm.

2.1 Research Object and Data Source

The object of this research is a small and medium-sized enterprise that applies accrual-based accounting practices in recording its operational and financial activities. The study focuses on the design and implementation of a web-based accrual accounting information system that supports variable costing analysis for managerial decision making. The data used in this research consist of historical financial transaction data, including sales transactions, production costs, operating expenses, journal entries, and financial statements. These data were obtained through direct observation of accounting documents, interviews with management, and analysis of existing manual accounting records. The collected data represent real business conditions and serve as the primary input for system modeling, transaction processing, and financial report generation. The overall flow of data processing and system interaction is illustrated in the system flowchart shown in Figure 1, which explains how transaction data are recorded, processed, and transformed into structured financial reports.

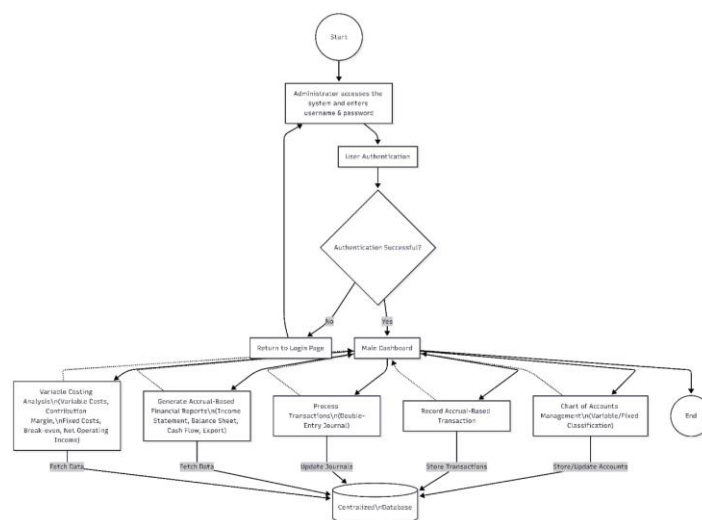


Figure 1. System Flowchart of the Web-Based Accrual Accounting Information System Using the Variable Costing Method

2.2 Data Preparation and Requirement Analysis

Data preparation begins with the identification and classification of financial transactions based on accrual accounting principles. Each transaction is categorized according to its account type, such as assets, liabilities, equity, revenue, or expenses, and further classified into variable or fixed costs to support the variable costing method. The system requires structured input for transaction dates, descriptions, account categories, cost behavior, and monetary values. Data validation mechanisms are applied to ensure completeness, consistency, and correctness before transactions are stored in the database. Once validated, the transaction data are processed automatically to update account balances, journal records, and cost summaries. This structured data preparation enables accurate calculation of contribution margin, net operating income, and other performance indicators in subsequent analysis stages.

2.3 Proposed Method and System Implementation Approach

The proposed method integrates an accrual-based accounting information system with the variable costing approach to support managerial analysis through a web-based platform. Under the variable costing method, only costs that vary directly with production volume are treated as product costs, while fixed overhead costs are classified as period expenses. This separation enables management to evaluate operational performance more clearly through contribution margin analysis. In this study, variable production costs consist of direct material costs, direct labor costs, and variable manufacturing overhead. The total variable cost is calculated by multiplying each variable cost component per unit by the total production or sales volume, as expressed in equation (1).

$$\text{Total Variable Cost (TVC)} = (DM + DL + VOH) \times Q \quad (1)$$

Where DM represents direct material cost per unit, DL denotes direct labor cost per unit, VOH refers to variable overhead cost per unit, and Q is the number of units sold.

Sales revenue is obtained by multiplying the selling price per unit by the total sales volume, as shown in equation (2).

$$\text{Sales Revenue} = P \times Q \quad (2)$$

Where P represents the selling price per unit.

The contribution margin is calculated as the difference between total sales revenue and total variable cost, as presented in equation (3).

$$\text{Contribution Margin} = \text{Sales Revenue} - \text{Total Variable Cost} \quad (3)$$

Furthermore, net operating income is determined by deducting total fixed overhead costs from the contribution margin, as shown in equation (4).

$$\text{Net Operating Income} = \text{Contribution Margin} - \text{Fixed Overhead Cost} \quad (4)$$

These formulas are embedded directly into the system logic, allowing automatic computation of contribution margin and net income once transaction and cost data are entered. By implementing these calculations within the accounting information system, financial performance evaluation becomes more accurate, consistent, and timely, enabling management to analyze profitability, cost structure, and operational efficiency effectively.

2.4 Supporting Techniques for Accuracy and System Quality

To enhance system usability and analytical accuracy, several supporting techniques are incorporated into the system design. A dashboard-based interface is used to present key financial indicators, including total revenue, variable costs, contribution margin, and net income, in real time. Automated journal generation reduces manual recording errors and improves data reliability. The system also provides analytical visualization features, such as charts and progress indicators, to help users interpret cost structures and profitability trends

more effectively. Additionally, export functions in PDF and print formats are included to support documentation, reporting, and audit requirements. These techniques improve the efficiency of financial analysis and support timely managerial decision making.

2.5 System Evaluation and Testing

System evaluation is conducted through functional testing and result verification. Functional testing focuses on verifying the correctness of transaction recording, cost classification, and report generation processes. The system-generated financial statements and variable costing reports are compared with manually prepared results to assess accuracy and consistency. The evaluation also considers system usability in supporting accounting tasks and managerial analysis. This evaluation approach ensures that the implemented system meets its functional objectives and can be used effectively in practice.

3. RESULTS AND DISCUSSION

3.1 System Design Results

The results of system design indicate that the implemented web-based accrual accounting information system is capable of supporting integrated financial recording and managerial analysis using the variable costing method. The system outcome is represented through eight interconnected modules that reflect the complete accounting cycle and cost analysis workflow. The authentication interface ensures controlled access to accounting data, while the main dashboard provides a real-time overview of key financial indicators, including sales revenue, total variable costs, contribution margin, and net operating income. The Chart of Accounts module embeds accrual accounting structures with explicit cost behavior classification, enabling automatic segregation of variable and fixed costs. Accrual-based transaction entry captures financial events accurately at the time of occurrence and assigns cost behavior consistently, which is reflected in the transaction journal and general journal modules that apply double-entry accounting principles. The reports module generates standardized financial statements, including income statements, balance sheets, and cash flow reports, ensuring consistency between transaction data and financial reporting. Furthermore, the variable costing analysis module processes system-generated data to calculate contribution margin, break-even point, margin of safety, and profitability projections, demonstrating that the system effectively integrates accrual accounting and variable costing within a unified web-based environment.

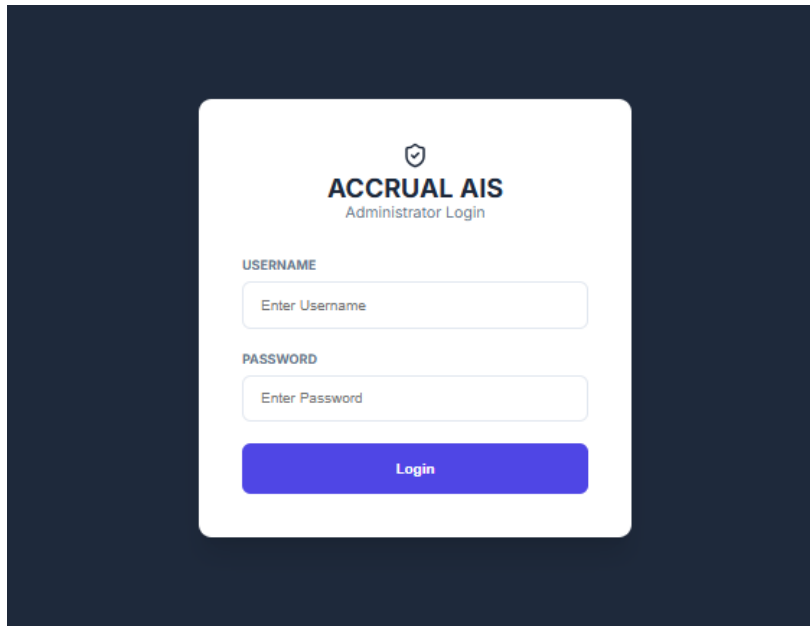


Figure 2. User Authentication Interface

This figure 2 shows the administrator login interface of the Accrual Accounting Information System. The page functions as the initial access control mechanism, requiring valid credentials before users can enter the system. Through this authentication process, the system ensures data security and restricts access to authorized administrators only, which is essential for protecting sensitive financial and accounting information.

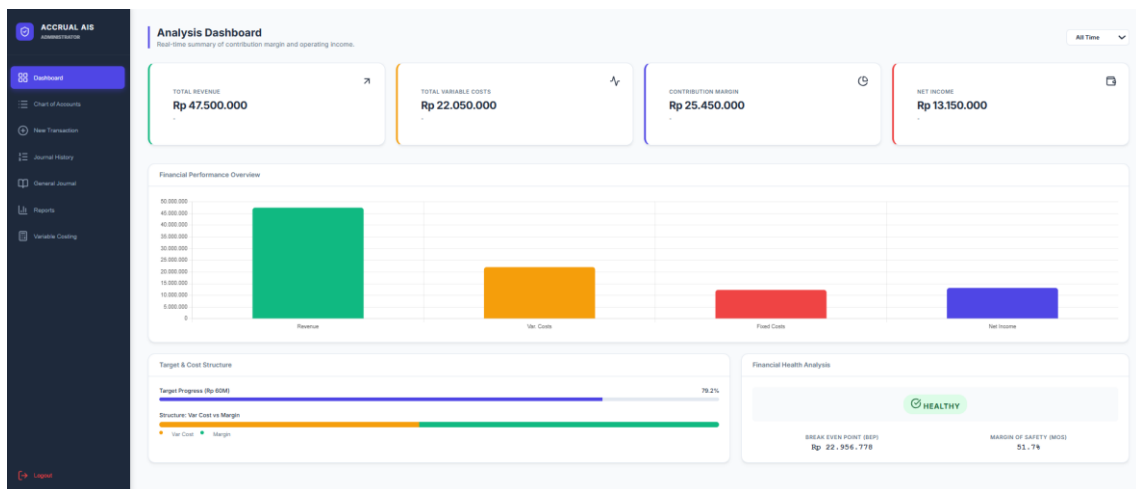


Figure 3. Variable Costing Analysis Dashboard

This figure 3 presents the main analysis dashboard of the web-based accrual accounting information system. The dashboard provides a real-time summary of key financial indicators, including total revenue, total variable costs, contribution margin, and net income. Visual elements such as bar charts and progress indicators are used to support the interpretation of cost structure, contribution margin performance, and break-even analysis. This dashboard enables administrators to monitor financial performance efficiently and supports managerial decision making based on variable costing information.

CODE	ACCOUNT NAME	CATEGORY	COST BEHAVIOR (VAR/FIXED)	BALANCE (RP)	ACTION
101	Cash & Bank	Asset	-	Rp.0	
102	Accounts Receivable	Asset	-	Rp.0	
120	Raw Material Inventory	Asset	-	Rp.0	
121	Accumulated Depreciation	Asset	-	-Rp.1.000.000	
201	Accounts Payable	Liability	-	Rp.0	
301	Owner's Capital	Equity	-	Rp.0	
401	Sales Revenue	Revenue	-	Rp.42.500.000	
501	Direct Material Expense	Expense	VARIABLE	Rp.36.200.000	
502	Direct Labor Expense	Expense	VARIABLE	Rp.5.000.000	
503	Variable Overhead Expense	Expense	VARIABLE	Rp.0	
504	Fixed Overhead Expense	Expense	FIXED	Rp.5.300.000	
505	Variable Marketing Expense	Expense	VARIABLE	Rp.850.000	
506	Fixed Operating Expense	Expense	FIXED	Rp.6.000.000	
507	Depreciation Expense	Expense	FIXED	Rp.1.000.000	
599	Miscellaneous Expense	Expense	FIXED	Rp.0	

Figure 4. Chart of Accounts with Cost Behavior Classification

This figure 4 illustrates the Chart of Accounts module in the web-based accrual accounting information system. The module displays structured account data, including account codes, account categories, and current balances. A key feature shown in this figure is the explicit classification of expense accounts into variable and fixed cost behavior, which supports the implementation of the variable costing method. By embedding cost behavior attributes directly into the chart of accounts, the system ensures consistent cost classification during transaction recording and facilitates accurate contribution margin analysis.

Figure 5. Accrual-Based Transaction Entry with Cost Classification

This figure 5 shows the transaction entry interface used to record accounting transactions under accrual accounting principles. The form allows the administrator to specify the transaction date, entry type, account category, and transaction amount. A key feature illustrated in this figure is the explicit classification of expenses into variable or fixed costs at the time of data entry, which ensures that cost behavior information is captured accurately and consistently for subsequent variable costing analysis.

DATE	DESCRIPTION	CATEGORY	CLASSIFICATION	AMOUNT (RP)	MANAGE
2025-01-25	Machine Depreciation Dr: Depreciation Expense Cr: Accumulated Depreciation	Depreciation Expense	FIXED	-Rp 1.000.000	[Edit] [Delete]
2025-01-20	Factory Electricity & Water Dr: Fixed Overhead Expense Cr: 201 - Accounts Payable / Cash	Fixed Overhead Expense	FIXED	-Rp 1.800.000	[Edit] [Delete]
2025-01-15	Packing & Shipping Cost Dr: Variable Marketing Expense Cr: 201 - Accounts Payable / Cash	Variable Marketing Expense	VAR	-Rp 850.000	[Edit] [Delete]
2025-01-12	Stock Clearance Sales (Accessories) Dr: 102 - Accounts Receivable / Cash Cr: Sales Revenue	Sales Revenue	REV	Rp 2.500.000	[Edit] [Delete]
2025-01-10	Workshop Rent (January) Dr: Fixed Overhead Expense Cr: 201 - Accounts Payable / Cash	Fixed Overhead Expense	FIXED	-Rp 3.500.000	[Edit] [Delete]
2025-01-08	Accessories Cost (Zippers/Buttons) Dr: Direct Material Expense Cr: 201 - Accounts Payable / Cash	Direct Material Expense	VAR	-Rp 1.200.000	[Edit] [Delete]
2025-01-05	Admin Staff Salary Dr: Fixed Operating Expense Cr: 201 - Accounts Payable / Cash	Fixed Operating Expense	FIXED	-Rp 6.000.000	[Edit] [Delete]
2025-01-03	Sewing Labor (50 Units) Dr: Direct Labor Expense Cr: 201 - Accounts Payable / Cash	Direct Labor Expense	VAR	-Rp 5.000.000	[Edit] [Delete]
2025-01-02	Sheepskin Raw Material Dr: Direct Material Expense Cr: 201 - Accounts Payable / Cash	Direct Material Expense	VAR	-Rp 15.000.000	[Edit] [Delete]
2025-01-01	Batch 01 Sales (Leather Jackets) Dr: 102 - Accounts Receivable / Cash Cr: Sales Revenue	Sales Revenue	REV	Rp 45.000.000	[Edit] [Delete]

Figure 6. Accrual-Based Transaction Journal History

This figure 6 displays the transaction journal history module of the accrual accounting information system. The module presents detailed journal entries recorded under accrual accounting principles, including transaction dates, descriptions, debit and credit accounts, cost classifications, and transaction amounts. By explicitly indicating whether each expense is classified as variable or fixed, this journal history supports transparency in cost behavior tracking and ensures that transaction data are consistently prepared for subsequent variable costing analysis and financial reporting.

DATE	DESCRIPTION / ACCOUNT NAME	REF	DEBIT	CREDIT
2025-01-01	102 - Accounts Receivable / Cash Sales Revenue (Batch 01 Sales (Leather Jackets))	Ref Ref	Rp 45.000.000 -	- Rp 45.000.000
2025-01-02	Direct Material Expense 201 - Accounts Payable / Cash (Sheepskin Raw Material)	Ref Ref	Rp 15.000.000 -	- Rp 15.000.000
2025-01-03	Direct Labor Expense 201 - Accounts Payable / Cash (Sewing Labor (50 Units))	Ref Ref	Rp 5.000.000 -	- Rp 5.000.000
2025-01-05	Fixed Operating Expense 201 - Accounts Payable / Cash (Admin Staff Salary)	Ref Ref	Rp 6.000.000 -	- Rp 6.000.000
2025-01-08	Direct Material Expense 201 - Accounts Payable / Cash (Accessories Cost (Zippers/Buttons))	Ref Ref	Rp 1.200.000 -	- Rp 1.200.000
2025-01-10	Fixed Overhead Expense 201 - Accounts Payable / Cash (Workshop Rent (January))	Ref Ref	Rp 3.500.000 -	- Rp 3.500.000
2025-01-12	102 - Accounts Receivable / Cash Sales Revenue (Stock Clearance Sales (Accessories))	Ref Ref	Rp 2.500.000 -	- Rp 2.500.000
2025-01-15	Variable Marketing Expense 201 - Accounts Payable / Cash (Packing & Shipping Cost)	Ref Ref	Rp 850.000 -	- Rp 850.000
2025-01-20	Fixed Overhead Expense 201 - Accounts Payable / Cash (Factory Electricity & Water)	Ref Ref	Rp 1.800.000 -	- Rp 1.800.000

Figure 7. General Journal Module of the Accrual Accounting Information System

This figure 7 illustrates the General Journal module, which consolidates all recorded transactions into a formal double-entry accounting format. Each entry displays the transaction date, account names, reference codes, and corresponding debit and credit amounts in accordance with accrual accounting principles. The module ensures the balance between debits and credits for every transaction and serves as the primary source for generating financial statements. The availability of a print function also supports documentation, auditing, and managerial review of journal records.

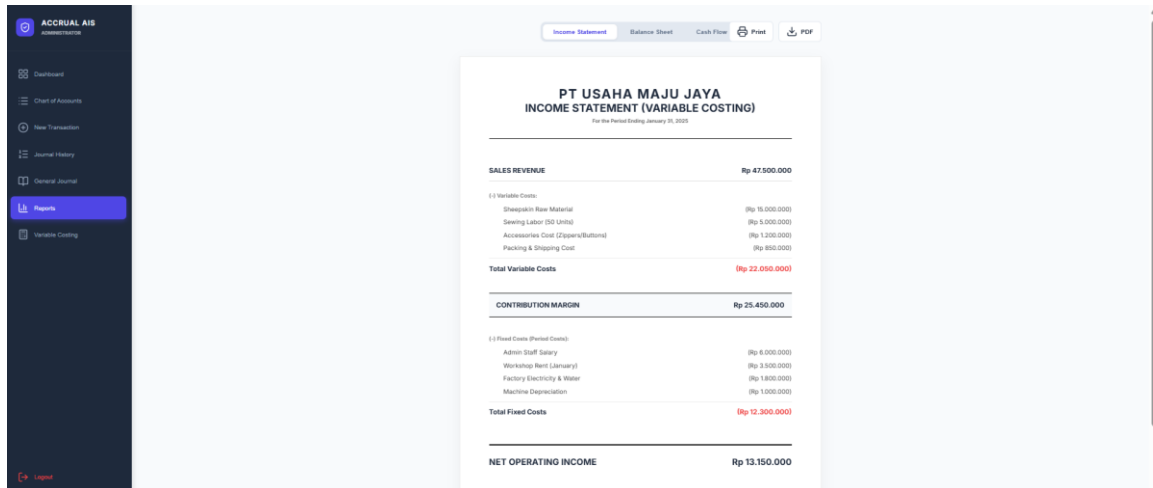


Figure 8. Financial Reports Module of the Web-Based Accrual Accounting Information System

This figure 8 presents the Reports module, which provides comprehensive financial statements generated automatically from recorded transactions. The module includes the Income Statement, Balance Sheet, and Cash Flow Statement, all prepared based on accrual accounting principles and variable costing classification. Users can switch between report types, review financial performance for a selected period, and export reports through print and PDF features. This module supports accurate financial reporting, documentation, and managerial evaluation by ensuring consistency between transaction records and formal financial statements.

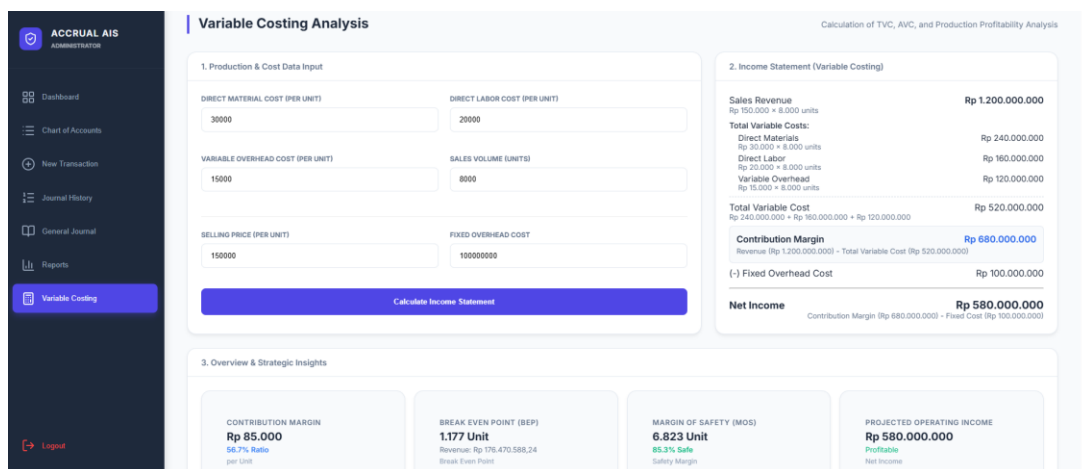


Figure 9. Billing and Payment Processing Module

This figure 9 illustrates the Variable Costing Analysis module of the web-based accrual accounting information system. The interface allows the administrator to input production and cost parameters, including direct material cost, direct labor cost, variable overhead cost per unit, sales volume, selling price, and fixed overhead cost. Based on these inputs, the system automatically calculates total variable costs, contribution margin, fixed costs, and net income using the variable costing method. In addition, the module provides strategic indicators such as break even point, margin of safety, contribution margin ratio, and projected operating income. This functionality supports managerial decision making by enabling scenario analysis, cost control evaluation, and assessment of production profitability in a structured and interactive manner.

3.2 Functional Testing Results

Functional testing was conducted to evaluate whether each system module operated according to its intended specifications. The results indicate that all core functionalities performed correctly and consistently. The authentication module successfully restricted access to authorized users only. Transaction input testing confirmed that data entered through the system were correctly stored in the database and reflected immediately in journal records and account balances. Cost classification testing showed that variable and fixed costs were accurately differentiated and processed within the variable costing calculations. Testing of the reporting module verified that financial statements generated by the system were consistent with underlying transaction data and conformed to accrual accounting principles. The variable costing analysis module accurately calculated total variable costs, contribution margin, and net operating income based on predefined formulas. Additionally, scenario-based testing demonstrated that changes in sales volume or cost parameters were immediately reflected in profitability indicators, confirming the reliability and responsiveness of the system's analytical functions.

3.3 Usability and Workflow Analysis

Usability analysis indicates that the system workflow is intuitive and well aligned with accounting practices. The navigation structure allows administrators to move sequentially from transaction recording to analysis and reporting without unnecessary complexity. The dashboard-centered workflow enables users to monitor financial conditions before accessing detailed modules, which improves decision-making efficiency. Clear labeling, consistent layout, and responsive design contribute to reduced cognitive load during system use. From a workflow perspective, the integration of cost classification at the transaction entry stage minimizes post-processing adjustments and reduces the risk of misclassification. The automatic linkage between transaction data, journals, and reports ensures data consistency across modules. These features collectively enhance operational efficiency and support continuous financial monitoring.

3.4 Discussion of Results

The results indicate that implementing a web-based accrual accounting information system integrated with the variable costing method provides significant advantages for financial management and decision making. Qualitatively, the system improves transparency, accuracy, and accessibility of financial information. Quantitatively, automated calculations of contribution margin, break-even point, and net operating income enable timely evaluation of profitability and cost structure. However, the system's current limitation lies in its reliance on a single administrator role, which may restrict scalability for larger organizations. Overall, the findings confirm that the proposed system effectively supports managerial analysis and demonstrates the practical applicability of variable costing within an integrated accounting information system.

4. CONCLUSIONS

This research has successfully implemented a web-based accrual accounting information system that integrates the variable costing method to support financial recording and managerial analysis. The system implementation demonstrates that accrual-based transaction processing and cost behavior classification can be effectively combined within a unified platform, enabling the automatic generation of financial statements and managerial cost reports. The results show that the system improves data consistency, reduces manual processing, and provides timely information such as contribution margin, break-even point, and net operating income, which are essential for short-term decision making. One of the main advantages of the implemented system is its ability to embed variable costing calculations directly into the accounting workflow, thereby enhancing the relevance and usability of

accounting information for management. However, the system also has limitations, particularly in its reliance on a single administrator role and its focus on a specific organizational context, which may restrict scalability and generalization. Future work is recommended to extend the system by incorporating multi-user access control, enhanced security mechanisms, and advanced analytical features such as budgeting and forecasting modules. Overall, the findings confirm that the implementation of a web-based accrual accounting information system using the variable costing method provides a practical and effective solution for improving financial management and managerial decision support.

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