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DEVELOPMENT OF AN APPSHEET-BASED SALES APPLICATION AT PT JAVA AKSHARA

Pradipta Afrah Nugraha, Roni Faslah, Rayi Dwipanilih
afrahpradipta@gmail.com
Universitas Negeri Jakarta

Abstract:
This study aims to develop an AppSheet-based sales application at PT Java Akshara to improve the effectiveness of sales transaction management through digitalization. The study was motivated by the company's manual sales recording process, which relied on separate spreadsheets and resulted in delayed data updates, a high risk of human error, inconsistencies between online and offline sales records, and time-consuming sales report preparation. This research employed the Research and Development (R&D) method using the ADDIE development model, which consists of Analysis, Design, Development, Implementation, and Evaluation stages. Data were collected through observations, interviews, documentation, preliminary surveys, User Acceptance Testing (UAT), and media expert validation. The application was developed using AppSheet integrated with Google Sheets as the primary database. Its main features include product master data management, online and offline sales transaction recording, automatic transaction calculation, sales monitoring dashboard, and sales report generation. The results showed that the application achieved a User Acceptance Testing (UAT) score of 93.2% and a media expert validation score of 94%, both categorized as Highly Feasible. Therefore, the AppSheet-based sales application is considered feasible to support sales administration at PT Java Akshara by improving transaction accuracy, accelerating report generation, and providing real-time sales monitoring.

Keywords: ***AppSheet, sales application, sales information system, digitalization, ADDIE.***

BACKGROUND

The rapid advancement of information technology has encouraged organizations to transform conventional business processes into digital systems capable of improving operational efficiency and data accuracy. In the retail sector, where sales activities occur continuously across multiple channels, companies require integrated information systems that can record transactions, manage product information, and generate reports in real time. Manual administrative processes are no longer able to accommodate increasing transaction volumes because they are susceptible to recording errors, delayed information updates, and inefficient reporting procedures.

PT Java Akshara is a cosmetics retail company operating both offline stores and online sales channels. The company manages approximately fifty Stock Keeping Units (SKU) and processes between one hundred and one hundred fifty sales transactions each day. Despite this considerable transaction volume, sales administration was still performed using separate spreadsheet files. Consequently, transaction updates were often delayed, discrepancies occurred between online and offline sales records, and monthly sales reports required three to four working days to complete. These conditions reduced operational efficiency and increased the possibility of inaccurate sales information.

A preliminary survey involving twenty employees directly engaged in sales activities further confirmed these operational challenges. The survey revealed that all respondents agreed that the company required a digital sales recording system capable of processing transactions in real time. Most respondents also indicated that transaction records were frequently incomplete and inaccurate, demonstrating that the existing administrative process no longer fulfilled the operational requirements of the company.

To address these issues, this study develops an AppSheet-based sales application capable of integrating online and offline transaction records within a single cloud-based system. The application provides product master management, automatic transaction calculation, sales monitoring dashboards, and automated sales reporting. Through the implementation of a low-code platform, the proposed application is expected to reduce administrative workload, improve transaction accuracy, and support more efficient sales management at PT Java Akshara.

THEORETICAL FRAMEWORK

Sales Information System

A sales information system is an integrated system designed to manage the entire sales process, including product management, transaction recording, sales calculation, and report generation. The system provides structured information that supports operational activities and managerial decision-making. An effective sales information system enables organizations to improve transaction accuracy, facilitate monitoring, and provide timely information for business evaluation (Johan & Chandra, 2024).

Furthermore, digital sales systems reduce recording errors and improve the management of both online and offline sales transactions compared with conventional manual processes (Budiansyah, 2025).

Digitalization

Digitalization refers to the transformation of manual business processes into technology-based systems that improve efficiency, productivity, and organizational performance. In business operations, digitalization enables organizations to automate repetitive activities, accelerate information processing, and provide accurate data for decision making. Within the retail industry, digital transformation also supports integrated operational management by improving information accessibility and reducing administrative workloads (Norliani et al., 2024; Muaffa & Rohman, 2025).

AppSheet

AppSheet is a no-code application development platform developed by Google that enables users to create mobile and web applications without conventional programming. The platform integrates directly with cloud-based databases such as Google Sheets, allowing organizations to rapidly develop business applications while minimizing development complexity. AppSheet supports real-time synchronization, workflow automation, dashboard visualization, and cross-platform accessibility, making it suitable for sales administration and retail business operations (Google, 2025; Sitinjak & Ginting, 2025).

Research and Development (R&D)

Research and Development (R&D) is a research approach used to develop and evaluate products intended to solve practical problems. Unlike descriptive research, R&D focuses on producing a tangible product that is systematically designed, implemented, tested, and evaluated before being adopted by users. In this study, the product developed is an AppSheet-based sales application intended to improve sales administration at PT Java Akshara.

ADDIE Development Model

The application was developed using the ADDIE model, which consists of five sequential phases: Analysis, Design, Development, Implementation, and Evaluation. The Analysis phase identifies organizational problems and user requirements. The Design phase focuses on system architecture, database design, and interface development. During the Development phase, the application is built using AppSheet and integrated with Google Sheets. The Implementation phase involves deploying the application in the operational environment, while the Evaluation phase measures application feasibility through User Acceptance Testing (UAT) and media expert validation. The structured nature of the ADDIE model ensures that the developed application aligns with user requirements and organizational objectives.

METHOD

This study employed the Research and Development (R&D) method using the ADDIE development model, which consists of Analysis, Design, Development, Implementation, and Evaluation. The model was selected because it provides a systematic framework for developing and evaluating educational and business applications through iterative stages.

The research was conducted at PT Java Akshara, a retail company specializing in cosmetic products. The study involved employees responsible for sales administration and inventory management as the primary users of the application.

The research procedure consisted of five stages.

Analysis
The analysis stage identified existing problems in the sales administration process through observation, interviews, documentation, and a preliminary survey. The results indicated that sales transactions were still recorded manually using separate spreadsheet files, causing data inconsistencies, delayed reporting, and administrative inefficiencies.

Design
During the design stage, system requirements were translated into application architecture, database structure, user interface design, and business process workflows. Unified Modeling Language (UML) diagrams were also prepared to describe system functionality.

Development
The application was developed using Google AppSheet integrated with Google Sheets as the primary database. Product master data, sales transactions, automatic calculations, dashboards, and reporting modules were configured within the AppSheet environment.

Implementation
The completed application was implemented at PT Java Akshara and used directly by employees to record daily sales transactions. Users performed operational activities using both desktop and mobile devices connected to the cloud database.

Evaluation
The developed application was evaluated through User Acceptance Testing (UAT) and media expert validation to determine its feasibility and usability. The UAT questionnaire measured users perceptions regarding system usefulness, ease of use, interface quality, and functionality, while media experts evaluated technical quality and application design.

RESULT
The research resulted in the development of an AppSheet-based sales application designed to support sales administration at PT Java Akshara. The application was developed based on the functional requirements identified during the analysis stage and consists of several integrated modules for managing sales transactions and product information.

Product Master
The Product Master module serves as the primary database for all products sold by the company. This module stores product information such as SKU, product name, brand, category, purchase price, selling price, and stock quantity. The centralized database allows users to access consistent product information during every sales transaction.

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Figure 1. Product Master Interface

Offline Sales Module

The Offline Sales module records transactions conducted directly at the physical store. Users enter transaction information, including product selection, quantity, discount, and payment amount. The application automatically calculates the transaction total and updates product stock after the transaction is completed.

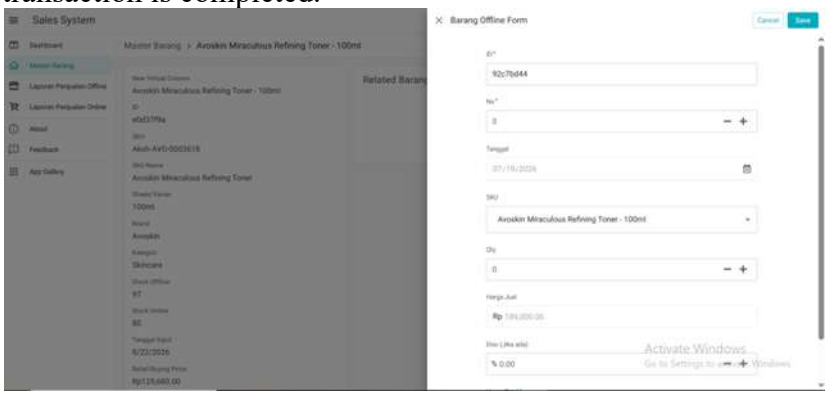


Figure 2. Offline Sales Interface

Online Sales Module

The Online Sales module records transactions originating from e-commerce platforms. Similar to the offline sales module, this feature performs automatic calculations and synchronizes stock information with the central database.

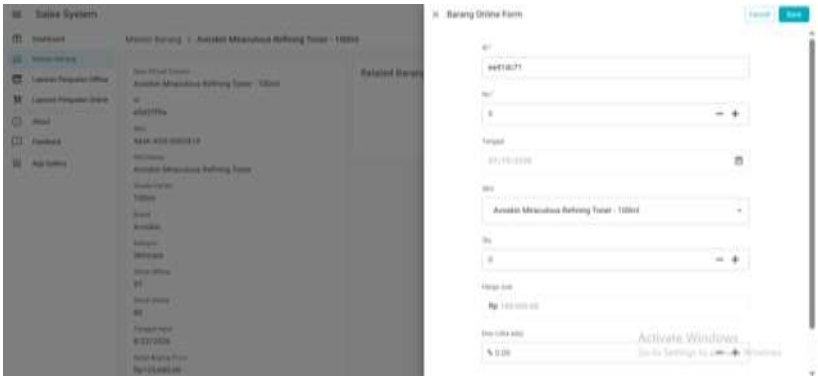


Figure 3. Online Sales Interface

Dashboard

The dashboard provides real-time information regarding sales performance. Several indicators are presented, including the number of transactions, product sales, remaining stock, and sales trends. This feature enables management to monitor business performance efficiently.

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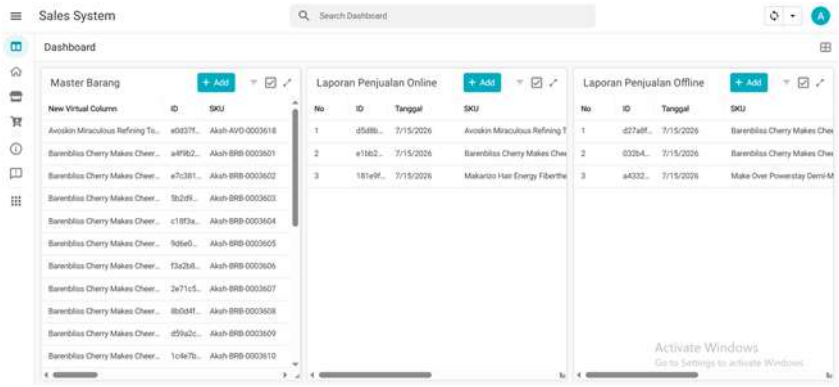


Figure 4. Dashboard Interface

User Acceptance Testing (UAT)

The developed application was evaluated through User Acceptance Testing involving operational employees at PT Java Akshara.

No	Total Score	Expected Score	Average	Percentage
1	92	100	4,6	**92%**
2	93	100	4,65	**93%**
3	94	100	4,7	**94%**
4	91	100	4,55	**91%**
5	95	100	4,75	**95%**
6	93	100	4,65	**93%**
7	92	100	4,6	**92%**
8	94	100	4,7	**94%**
9	93	100	4,65	**93%**
10	95	100	4,75	**95%**
Amount	932	1000	46,6	932%
Skor Rata - Rata				93,2%

Table 1. User Acceptance Testing Result

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Media Expert Validation

The application was also evaluated by a media expert to assess interface quality, functionality, navigation, and usability.

No	Assessment Criteria	Number of Items	Total Score for Each Aspect	Expected Score	Feasibility Percentage
1	*Usability*	3	14	15	93,3%
2	*Functionality*	4	19	20	95%
3	Visual Communication	3	14	15	93,3%
Amount		12	47	50	94%
Average Score					94%

Table 2. Media Expert Validation Result

DISCUSSION

The findings demonstrate that implementing AppSheet successfully digitalized the sales administration process at PT Java Akshara. Compared with the previous manual system, the developed application provides several operational advantages.

First, transaction recording becomes significantly faster because users no longer need to manually calculate transaction values or update inventory records. Automatic synchronization between AppSheet and Google Sheets ensures that sales information is consistently updated in real time.

Second, the integrated database minimizes discrepancies between online and offline transaction records. Product stock is automatically adjusted after every completed transaction, reducing the likelihood of human error that frequently occurred in the previous manual process.

Third, management can monitor sales performance through interactive dashboards without waiting for monthly report preparation. This capability improves decision-making by providing timely and accurate operational information.

The results of User Acceptance Testing (93.2%) and media expert validation (94%) indicate that the developed application successfully meets user expectations and fulfills software quality standards. These findings demonstrate that low-code platforms such as AppSheet can effectively support digital transformation within small and medium-sized retail organizations while reducing development complexity and implementation costs.

CONCLUSION

This study successfully developed an AppSheet-based sales application to support sales administration at PT Java Akshara using the ADDIE development model. The application integrates product master management, online and offline sales transactions, automatic calculations, dashboard visualization, and sales reporting within a cloud-based environment.

The implementation results indicate that the developed application improves transaction accuracy, reduces administrative workload, accelerates report preparation, and provides real-time sales monitoring. Evaluation results further demonstrate that the application achieved a User Acceptance Testing score of 93.2% and a media expert validation score of 94%, indicating that the application is highly feasible for operational use.

Future studies are recommended to integrate additional business functions such as inventory forecasting, financial reporting, and customer relationship management to further enhance organizational performance.

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