PAPER – OPEN ACCESS

Design of an Integrated Financial Management System to Improve Operational Efficiency in the Property Business: A Case Study of PT. Zona Property Indonesia

Author : Wahyudi, et al
DOI : 10.32734/lwsa.v9i2.2794
Electronic ISSN : 2654-7066
Print ISSN : 2654-7058

Volume 9 Issue 2 – 2026 TALENTA Conference Series: Local Wisdom, Social, and Arts (LWSA)

LWSA Conference Series 09 (2026)
TALENTA Conference Series
Available online at https://talentaconfseries.usu.ac.id

Design of an Integrated Financial Management System to Improve Operational Efficiency in the Property Business: A Case Study of PT. Zona Property Indonesia

Wahyudi[a], Meilita Tryana Sembiring[b], Nazaruddin[c]

[a]*Student at Master of Management Study Program, Postgraduate School, Universitas Sumatera Utara, Medan, 20155, Indonesia*
[b,c]*Department of Industrial Engineering, Faculty of Engineering, Universitas Sumatera Utara, Medan, 20155, Indonesia*

zona.property@yahoo.com

Abstrak

Manajemen keuangan yang efisien sangat penting dalam industri properti untuk memastikan keberlanjutan bisnis dan mengoptimalkan profitabilitas. PT. Zona Property Indonesia menghadapi tantangan dengan sistem manajemen keuangan manual dan tidak terintegrasi, yang dapat menyebabkan ketidakefisienan, kesalahan pencatatan, dan keterlambatan dalam pengambilan keputusan. Penelitian ini bertujuan untuk merancang sistem manajemen keuangan terintegrasi berbasis web guna meningkatkan efisiensi operasional perusahaan. Metode penelitian mencakup studi kasus, observasi langsung, wawancara, dan analisis sistem, meliputi identifikasi kebutuhan, perancangan sistem, implementasi, dan pengujian. Sistem ini dikembangkan menggunakan JavaScript, HTML, CSS, jQuery, dan PHP untuk memastikan fleksibilitas, akurasi, dan akses real- time terhadap data keuangan. Hasil penelitian menunjukkan bahwa penerapan sistem manajemen keuangan terintegrasi meningkatkan efisiensi operasional, mempercepat pelaporan keuangan, dan meminimalkan kesalahan pencatatan. Dengan sistem ini, PT. Zona Property Indonesia dapat mengoptimalkan pengelolaan arus kas, perencanaan anggaran, dan analisis keuangan, sehingga mendukung pengambilan keputusan yang lebih cepat dan akurat.

Kata Kunci: Sistem keuangan terintegrasi; efisiensi operasional; bisnis property; teknologi informasi; PT. Zona Property Indonesia

Abstract

Efficient financial management is crucial in the property industry to ensure business sustainability and optimize profitability. PT. Zona Property Indonesia faces challenges with a manual and non-integrated financial management system, which can lead to inefficiencies, recording errors, and delays in decision-making. This study aims to design a web-based integrated financial management system to enhance the company's operational efficiency. The research method includes a case study, direct observation, interviews, and system analysis, covering needs identification, system design, implementation, and testing. The system is developed using JavaScript, HTML, CSS, jQuery, and PHP to ensure flexibility, accuracy, and real-time access to financial data. The results show that implementing an integrated financial management system improves operational efficiency, speeds up financial reporting, and minimizes recording errors. With this system, PT. Zona Property Indonesia can optimize cash flow management, budget planning, and financial analysis, leading to faster and more accurate decision-making.

Keywords: Integrated financial system; operational efficiency; property business; information technology; PT. Zona Property Indonesia

1. Introduction

Urbanization and population growth have driven expanding demand for housing, making property development a critical economic activity. Property businesses require effective financial management to plan budgets, control costs, and ensure profitability. However, many property firms still rely on disconnected or manual accounting systems, leading to inefficiencies, duplicate entries, and delays in reporting. Without integration, financial data often remains siloed and out of date, making timely decision-making difficult. Prior studies have shown that integrated financial information systems (IFMS) can substantially improve operational efficiency and decision support by providing seamless data flow and real-time access to information. For

Selection and peer-review under responsibility of The 2nd International Joint Conference on Digitalisation of Sustainable Social Sciences (IJCDSS) 2025
p-ISSN: et al, e-ISSN: 2654-7058, DOI: 10.32734/lwsa.v9i2.2794

example, Aryani (2023) found that IFMS implementations in large organizations produced "enhanced decision-making [and] operational efficiency" as key benefits. Similarly, a case study in Uganda reported that implementation of an IFMIS was strongly positively correlated with operational efficiency measures.

In the context of Indonesian property development, PT. Zona Property Indonesia (under Selaras Group) exemplified the challenge: its financial processes (budgeting, procurement, reporting) were fragmented across spreadsheets and legacy systems, causing errors and delays. Project budgets often included repeated entries (e.g., the same material listed twice in a manual budget), inflating costs unnecessarily. Responding to this problem, this study set out to (1) design an integrated financial management system tailored to the company's needs, (2) implement and evaluate the system's effect on operational efficiency, and (3) examine how the integrated system improves company-wide financial reporting. By addressing these questions through a focused case study, we aim to provide practical guidance for similar businesses seeking to digitize and integrate their financial operations.

This study presents the design and implementation of an integrated web-based financial management system for PT. Zona Property Indonesia, a real-estate development company. The system was developed to address inefficiencies caused by fragmented and manual financial processes. Using a case-study approach, data were gathered through direct observation, interviews with management and staff, and analysis of existing company records and literature. The system incorporates core modules (budgeting, procurement, inventory, payments, and reporting) in a unified platform. After deployment, the company observed dramatic improvements in operational efficiency and reporting speed. For example, the time to prepare monthly financial reports was reduced from several days to under one hour. The integrated system provides real-time, consolidated financial data (e.g. budget vs. actuals, cash flow, sales per project), enabling faster and more accurate decision-making. These results align with prior findings that integrated financial management systems enhance decision quality, efficiency, and transparency. The case demonstrates how digital integration of financial processes can significantly streamline operations in the property sector.

2. Literature Review

Integrated Financial Management Systems (IFMS) have emerged as essential tools for improving organizational financial processes. IFMS combine budgeting, accounting, procurement, inventory, and financial reporting into a centralized digital platform, enabling real-time data access and reducing manual duplication. According to Aryani (2023), the use of IFMS improves decision-making quality and streamlines workflows by eliminating siloed data. In the context of property development businesses, which manage multiple simultaneous projects, an integrated system is particularly beneficial to ensure cost control and accurate budget realization.

Operational efficiency in financial management is commonly measured by indicators such as the ratio of operating expenses to operating income (BOPO), and liquidity metrics like the quick ratio (Juliani, 2007; Brigham & Houston, 2001). Studies by Anwar (2019) and Aisyah et al. (2020) highlight the importance of structured budgeting, internal controls, and timely financial reporting in maintaining financial health. The integration of these processes into a web-based platform helps organizations monitor real-time transactions, minimize redundancy, and avoid unplanned expenses—especially critical in project-based sectors like real estate.

Information technology plays a central role in digitalizing financial systems. Web-based platforms using PHP, MySQL, and JavaScript (Agung, 2012) have proven effective in building user-friendly and scalable financial tools. Research by Fahmi AlKhadzik (2023) and Mahfudz et al. (2023) shows that web-based financial and sales systems in property companies improve accuracy, reporting speed, and transparency. In addition, recent advancements in Artificial Intelligence (Elmegaard, 2022; Jin et al., 2022) have begun to enhance financial systems by automating data entry and generating predictive analytics, supporting strategic decision-making and reducing human error.

2. Methods

A case-study research design was adopted, focusing on PT. Zona Property Indonesia's financial operations. Primary data were collected via on-site observation of workflows and interviews with the company's finance, procurement, and project teams. Secondary data included company documents (historical budgets, financial reports) and relevant literature on financial management systems. The research followed a typical system development lifecycle: first identifying business requirements and pain points; then planning and designing the integrated solution; followed by system development, testing, and refinement; and finally deploying the web-based system and training users.

The integrated system was built on the CodeIgniter framework using PHP, MySQL, JavaScript and related web technologies. Key functional modules were developed: a Budgeting module for project budgets; Procurement modules (Purchase Request and Purchase Order); Inventory/Receipt (warehouse receipt entry and material usage); Accounts Payable (purchase invoices and payments); and Financial Reporting (e.g. budget realization, cash flow, and sales reports). These modules share a common database to ensure real-time data consistency. During development, iterative consultation sessions were held with stakeholders to validate requirements and ensure the system aligned with operational needs. Testing included sample transaction workflows and performance of report generation.

Finally, the completed system was deployed on the company's servers. Users received training on each module, and a parallel run was conducted to compare the new system against existing manual processes. The evaluation focused on process speed, error rates, and user feedback.

3. Results and Discussion

A case-study research design was adopted, focusing on PT. Zona Property Indonesia's financial operations. Primary data were collected via on-site observation of workflows and interviews with the company's finance, procurement, and project teams. Secondary data included company documents (historical budgets, financial reports) and relevant literature on financial management systems. The research followed a typical system development lifecycle: first identifying business requirements and pain points ; then planning and designing the integrated solution; followed by system development, testing, and refinement; and finally deploying the web-based system and training users.

The integrated system was built on the CodeIgniter framework using PHP, MySQL, JavaScript and related web technologies. Key functional modules were developed: a Budgeting module for project budgets; Procurement modules (Purchase Request and Purchase Order); Inventory/Receipt (warehouse receipt entry and material usage); Accounts Payable (purchase invoices and payments); and Financial Reporting (e.g. budget realization, cash flow, and sales reports). These modules share a common database to ensure real-time data consistency. During development, iterative consultation sessions were held with stakeholders to validate requirements and ensure the system aligned with operational needs. Testing included sample transaction workflows and performance of report generation.

Finally, the completed system was deployed on the company's servers. Users received training on each module, and a parallel run was conducted to compare the new system against existing manual processes. The evaluation focused on process speed, error rates, and user feedback.

The case findings corroborate previous research on the benefits of integrated financial information systems. Aryani (2023) similarly noted that IFMIS implementation "underscores enhanced decision-making and operational efficiency" despite implementation challenges. Our experience echoes this: by automating approvals and linking data across departments, the system improved decision support for PT. Zona. The strong positive link between IFMIS use and efficiency documented by Musoke (2012) is reflected here in the dramatic reduction of report-preparation time and in the elimination of redundant entries.

Figure 1. Integrated Financial System Dashboard

These outcomes also align with general IFMS features reported in practice. For example, the platform's centralized architecture created a single "source of truth" for financial data, a critical factor in improving data accuracy and transparency. Automation of routine processes (purchase ordering, invoice tracking, etc.) streamlined workflows, consistent with known IFMS advantages of reducing manual errors and freeing resources for strategic tasks. Notably, the study found that technical deployment alone was insufficient: success also depended on user training and change management. This matches findings in the literature that effective IFMS adoption requires stakeholder engagement and training (as noted in several IFMIS case studies).

A limitation is that our evaluation is context-specific to one company. However, the principles are broadly applicable: any property or construction firm with multiple projects and decentralized finance could realize similar gains. In future work, performance benchmarks (e.g. transaction throughput) and user satisfaction surveys could quantify impacts more rigorously. Overall, the results demonstrate that investing in a tailored integrated system can substantially enhance operational efficiency in property businesses, in line with broader digital transformation trends.

4. Conclusion

This study developed and tested an integrated web-based financial management system for a property development company. The system design incorporated all major finance functions in a modular architecture. First, the system eliminated key operational problems: it replaced fragmented manual processes with an automated workflow, thus avoiding duplicate record-keeping, delays in reporting, and hidden costs. Technology-wise, the web-based system (built on CodeIgniter/PHP/MySQL) supports automation and cross-divisional integration, enabling the company to process activities in hours instead of days. Second, the implementation process (which included iterative design reviews, training, and user feedback) ensured that the system fit actual business needs. Post-deployment, PT. Zona Property Indonesia experienced faster operations; for example, monthly reporting which once took days could now be completed in under one hour. Third, the integrated system greatly simplified financial reporting. It generates comprehensive real-time reports (budget vs. realization, cash flow, sales per project, material usage, etc.), consolidating all data in one place. Management can now monitor financial health at a glance and make quicker, more informed decisions.

In conclusion, this case study confirms that an integrated financial management system can significantly improve operational efficiency in the property industry. The findings provide a practical model for other firms: by digitalizing budgeting, procurement, and reporting in a unified platform, companies gain speed, accuracy, and transparency in their financial operations.

References

[1] Agung, L. (2012). Pemrograman Web Dinamis Menggunakan JavaScript. Yogyakarta: Andi Publisher.
[2] Aisyah, S., Nugroho, W., & Ramadhani, D. (2020). Financial Management System Development for MSMEs Using Web-Based Technology. Jurnal Ilmu Komputer dan Aplikasi, 14(2), 55–64.
[3] Anwar, M. (2019). Manajemen Keuangan: Konsep dan Penerapan. Jakarta: Mitra Wacana Media.
[4] Aryani, D. N. (2023). Integrated Financial Management Information System: Exploring Implementation Challenges and Benefits in Organizational Contexts. West Science Information System and Technology, 1(1), 40–51. https://doi.org/10.58812/wsist.v1i01.167
[5] Brigham, E. F., & Houston, J. F. (2001). Fundamentals of Financial Management (9th ed.). Orlando: Harcourt.
[6] Dalimunthe, D. M. J., Muda, I., & Noraini. (2019). The Influence of Firm Size and Profitability on Financial Performance with Capital Structure as Intervening Variable. International Journal of Scientific and Technology Research, 8(1), 120–127.
[7] Elmegaard, N. (2022). Automation and AI in Accounting: Transformation of Financial Reporting. International Journal of Finance and Accounting, 11(4), 143–151.
[8] Fadhli, H., & Devitra, D. (2017). Analisis dan Perancangan Sistem Informasi Penjualan Rumah Berbasis Web pada PT. Mitra Hasri. Jurnal Teknologi Informasi dan Ilmu Komputer, 4(2), 137–144.
[9] Fahmi AlKhadzik, M. (2023). Web-Based Financial Reporting Systems: The Future of Real-Time Decision Making in Business. Journal of Information Systems and Technology Management, 15(3), 220–232.
[10] Hasan, A. (2022). The Impact of Artificial Intelligence Integration on Auditor's Work and Financial Accountability. Journal of Accounting and Digital Innovation, 3(2), 89–97.
[11] Hasanah, R., & Hanifah, L. (2020). The Role of Financial Management Systems in Enhancing Firm Performance. Jurnal Ekonomi dan Manajemen, 21(1), 33–41.
[12] Hassyddiqy, M. A., & Hasdiana, R. (2023). Sales Forecasting in the Property Sector Using Neural Network Algorithms. Jurnal Sistem Informasi, 19(1), 45–54.
[13] Jefri, J. P., Barus, O. P., & Romindo. (2018). Forecasting Property Sales Using ARIMA Model. Jurnal Teknologi Informasi dan Komputer, 6(2), 97–105.
[14] Jin, C., Yang, D., & Zhang, Y. (2022). Deep Learning Approaches for Financial Forecasting and Risk Analysis. IEEE Transactions on Artificial Intelligence, 3(2), 104–117. https://doi.org/10.1109/TAI.2022.3168674
[15] Juliani, R. (2007). Rasio BOPO Sebagai Indikator Efisiensi Kinerja Keuangan. Jurnal Akuntansi dan Keuangan Indonesia, 4(2), 22–35.
[16] Mahfudz, F., Maulana, I. L., & Saptono, M. Z. (2023). Designing a Web-Based CRM System for Property Marketing and Sales. Jurnal Teknologi dan Sistem Informasi, 10(2), 75–82.
[17] Musoke, P. (2012). The Effect of the Integrated Financial Management Information System on Operational Efficiency in Local Governments in Uganda: A Case Study of Wakiso District. Unpublished Thesis, Uganda Martyrs University.
[18] Nurdiansyah, H., & Rahman, A. (2019). The Development of Budget Control Systems in Public Sector Organizations. Jurnal Ilmu Administrasi Negara, 6(2), 94–101.
[19] Priyantiningsih, W. (2019). Strategi Pengelolaan Keuangan dalam Industri Properti: Studi Kasus pada Perusahaan Developer Skala Menengah. Jurnal Manajemen Strategis, 14(1), 55–66.
[20] Purba, R. H., Situmorang, M., & Lubis, H. (2021). Financial Planning and Control Using Integrated Systems in Project-Based Companies. Jurnal Sistem Informasi dan Akuntansi Bisnis, 2(1), 25–34.
[21] Rangkuti, F. (2009). Strategi Promosi yang Kreatif dan Analisis Kasus Integrated Marketing Communication. Jakarta: PT Gramedia Pustaka Utama.