Volume 6 Issue 2 (2026) Pages 512 - 523
Amkop Management Accounting Review (AMAR)
ISSN : 2828-2248 (Online)

Analysis of the Utilization of an Odoo Enterprise-Based Enterprise Resource Planning Framework to Enhance the Achievement of Accounting Digitalization in the MSME Sector

Vicky Dzaky Cahaya Putra[1], Dian Lestari[2]
[1] Accounting Department, Faculty of Economics and Business, Jenderal Achmad Yani University, Cimahi, Indonesia
[2] Management Department, Faculty of Economics and Business, Jenderal Achmad Yani University, Cimahi, Indonesia

Abstract

This study aims to analyze the utilization of an Odoo Enterprise-based Enterprise Resource Planning (ERP) framework in enhancing accounting digitalization within the Micro, Small, and Medium Enterprise (MSME) sector, particularly at Nyonyah Cake & Bakery. The research problem focuses on the continued use of manual financial recording systems based on Microsoft Excel, which resulted in reporting delays, risks of human error, low data integration, and limited access to real-time financial information. This study employed a qualitative approach using a descriptive method through observation, interviews, and documentation studies. The ERP implementation was carried out gradually over a two-month period using the Accounting, Sales, Purchase, and Inventory modules within Odoo Enterprise. The findings indicate that the implementation of the Odoo Enterprise-based ERP system significantly improved operational efficiency, accelerated financial recording and reporting processes, reduced data redundancy, and enhanced the accuracy and transparency of financial information. Furthermore, the system supported faster and more data-driven managerial decision-making through real-time information integration. This research also produced an adaptive and incremental ERP implementation model specifically designed to meet the operational needs of food-sector MSMEs.
Keywords: ERP, Odoo Enterprise, Accounting Digitalization, MSMEs, Accounting Information System

✉ Corresponding author :
Email Address : vicky.cahaya@lecture.unjani.ac.id

INTRODUCTION

The rapid growth of information technology has encouraged companies to adopt computerized systems in order to produce data that is more accurate, reliable, and timely. The use of technology in business operations greatly supports organizational efficiency, although its implementation often faces several challenges, such as systems that are not aligned with company needs or users who lack understanding in operating the system effectively. In addition, large companies that still rely on simple information systems may struggle to meet increasingly complex operational demands. Therefore, businesses are required to continuously adapt to technological developments to remain competitive in the modern business environment (Mubarok, Sari, Wibowo, 2025). The emergence of various software applications has also shown how technology has become an important part of supporting both private and public organizational activities.

One important technological innovation widely implemented in companies is the Enterprise Resource Planning (ERP) system. According to Rahmatila et al. (2022), ERP is a system that supports business processes by providing integrated real-time information across company divisions. ERP enables organizations to manage and process large amounts of data more efficiently. Ayu et al. (2024) explained that ERP consists of interconnected business modules covering product planning, inventory, supply chain, marketing, human resources, finance, and accounting. The effective implementation of ERP can improve productivity, operational efficiency, and organizational competitiveness. Sak'adah (2024) further stated that technology-based accounting information systems help businesses access information more easily, improve operational effectiveness, and enhance company performance. In line with this, (Anjarwati et al., 2023) emphasized that digitalization reduces manual work and allows accountants to focus on more strategic and creative activities, while (Fauzi et al., 2023) highlighted that accounting digitalization has expanded through software applications, cloud systems, online tools, and digital data storage.

ERP implementation also supports stronger internal control and improves the quality of financial reporting. According to (Mayori & Aslami, 2022), ERP developed as an integration tool designed to connect all business processes within an organization into a unified system. In the accounting field, ERP integrates financial information from different departments into a single database, making departments more connected and business processes more effective (Arfikriyana & Suhendi, 2022). Sulistiami & Nopiana (2024) also explained that ERP integrates information needs from different organizational departments and manages company resources efficiently. Furthermore, Karlina et al. (2024) described ERP as a strategic investment that enhances operational efficiency and business growth. This study uses Odoo Enterprise, an open-source ERP software that provides integrated business solutions, including accounting management. According to Demilda et al. (2022), the accounting module is one of the most important ERP components because it supports core business management functions, while Efendi & Aditya (2022) stated that Odoo Enterprise can help organizations manage accounting processes through integrated financial transaction recording and automated reporting.

Despite the benefits of digital technology, many MSMEs in Indonesia still have limited adoption of digital accounting systems. Data from the Ministry of Cooperatives and SMEs in 2024 showed that around 35% of MSMEs had not optimally utilized digital technology, especially in financial recording activities. Similarly, Bank Indonesia (2024) reported that only about 30% of MSMEs had adopted digital technology, mainly for marketing and sales purposes. Many business owners avoid preparing financial reports because they lack accounting knowledge

DOI : 10.37531/amar.v6i2.3957

and consider bookkeeping complicated and costly. This condition also occurs in Nyonyah Cake & Bakery, where financial records are still managed manually, causing delays in verification, difficulties in data consolidation, and risks of data loss. Capri & Rahayu (2022) emphasized that proper financial recording is essential for efficient business management and strategic decision-making. Therefore, implementing ERP-based accounting digitalization through Odoo Enterprise is considered an appropriate solution to improve financial management efficiency and support better decision-making processes for MSMEs.

Based on the background problems described above, this study aims to analyze the utilization of an Enterprise Resource Planning (ERP) framework based on Odoo Enterprise in improving the achievement of accounting digitalization within the MSME sector, particularly at Nyonyah Cake & Bakery. This research focuses on identifying the accounting information system needs required to support more effective and efficient operational activities and financial reporting processes within MSMEs. In addition, the study seeks to implement an integrated Odoo Enterprise ERP framework, especially through the accounting module, in order to support the digital transformation of accounting activities. The research also aims to evaluate the effectiveness of the Odoo Enterprise system in improving the accuracy, timeliness, and reliability of financial data, as well as to assess the impact of ERP implementation on system quality and user satisfaction, particularly in enhancing operational efficiency and supporting managerial decision-making processes within MSMEs.

METHODOLOGY

Research Design

This study employed a qualitative approach using a descriptive research method to analyze the utilization of an Enterprise Resource Planning (ERP) framework based on Odoo Enterprise in supporting accounting digitalization within the MSME sector. The research focused on Nyonyah Cake & Bakery, a culinary business established in 2011 in Bandung and well known for its premium bakery and traditional cake products (Sugiyono, 2019). The company emphasizes product quality, innovation, hygiene, and customer satisfaction while continuously adapting to technological developments and market competition. This research aimed to explore the financial management problems faced by the MSME, particularly related to manual transaction recording, unstructured data management, and limitations in operational integration. The study was designed to provide an ERP-based solution capable of improving efficiency, financial reporting quality, operational integration, and managerial decision-making through the implementation of the Odoo Enterprise accounting module.

Population and Sample (Research Subjects)

The research subjects in this study consisted of employees of Nyonyah Cake & Bakery who were directly involved in financial and accounting activities. The study focused on three employees from the finance division who served as the primary informants because they possessed direct knowledge regarding the company's

DOI : 10.37531/amar.v6i2.3957

accounting processes, transaction recording, financial reporting, and operational challenges. These informants were selected purposively based on their involvement in the accounting management system and their understanding of the company's business processes. Through these participants, the researcher obtained in-depth information regarding the existing financial management system, the challenges of manual accounting practices, and the organizational needs related to ERP implementation and accounting digitalization.

Data Collection Techniques and Instrument Development

The data collection process in this study utilized both primary and secondary data sources. Primary data were collected through direct interviews with finance and accounting employees at Nyonyah Cake & Bakery to obtain detailed information regarding operational activities, accounting processes, and existing system constraints. Meanwhile, secondary data were obtained from scientific literature, journals, company documents, and other relevant references related to ERP systems, accounting digitalization, and MSME financial management. The research instrument was developed in the form of interview guidelines designed to explore information regarding accounting information system needs, operational workflows, financial recording methods, system integration problems, and user expectations toward ERP implementation. In addition, documentation techniques were used to support the validity of the research findings and strengthen the overall analysis process.

Data Analysis Techniques

The data analysis process was conducted systematically through several stages. The first stage involved identifying organizational problems and determining the research objectives related to accounting digitalization and ERP implementation. The second stage consisted of conducting preliminary studies through literature reviews and field observations to understand the company's operational conditions. Afterward, the researcher analyzed system requirements by identifying business processes, operational constraints, and the features needed within the ERP system. The next stage focused on identifying appropriate Odoo Enterprise modules, particularly the accounting and finance modules, followed by system customization to align the ERP framework with the company's operational needs. Subsequently, the implementation design stage involved preparing system configuration, data integration, and user interaction scenarios before the system was implemented in the operational environment. The implementation stage included system installation, initial data input, user training, and system testing. Finally, the study concluded with evaluation, interpretation of findings, and the formulation of recommendations for future ERP development and improvement within the MSME sector.

RESULT AND DISCUSSION

During the financial recording process, Nyonyah Cake & Bakery still relied on manual accounting practices using Microsoft Excel and separate online storage systems, which created several operational inefficiencies. Transaction evidence and financial records were stored separately, causing the process of searching, verifying, and validating financial data to require significant time. This condition often delayed internal audit activities and transaction rechecking processes. In addition, the absence of an integrated storage system increased the risk of document loss or damage, reducing the effectiveness of administrative and financial operations. The preparation of financial reports also became more complicated because routine transactions were recorded in different files and managed by different divisions, resulting in uncentralized financial information and a higher risk of human error during reconciliation and reporting activities.

Another major issue identified was the difficulty in providing real-time financial information for top management. The company was required to upload the latest financial reports to online storage so that management could monitor financial conditions continuously. However, this process frequently experienced delays because financial data first needed to be collected from several departments before being uploaded. Furthermore, differences in employees' digital skills and document management capabilities caused inconsistencies in data updates, meaning that uploaded reports were not always accurate or current. This situation negatively affected managerial decision-making because management could not always access reliable and updated financial information. Coordination among divisions such as cashier, administration, and accounting was also inefficient because each department still used different reporting formats and procedures, often causing inconsistencies between daily cash transactions and monthly financial reports.

Based on these problems, the researcher conducted an accounting information system analysis using a use case diagram to identify the interaction between system users and the main functions required within the Accounting and Finance system. The analysis aimed to understand user requirements and organizational business processes in order to design a more integrated accounting system. Several actors were identified in the system, including accounting staff, cashiers, financial managers, and company directors, each having different responsibilities in financial data management. The proposed system was designed to support transaction recording, customer and supplier data management, financial reporting, and managerial approval processes in an integrated and real-time environment. Through this analysis, the researcher obtained a clearer understanding of the workflow and functional requirements needed to improve accounting digitalization, operational efficiency, data accessibility, and financial management within the company.

DOI : 10.37531/amar.v6i2.3957

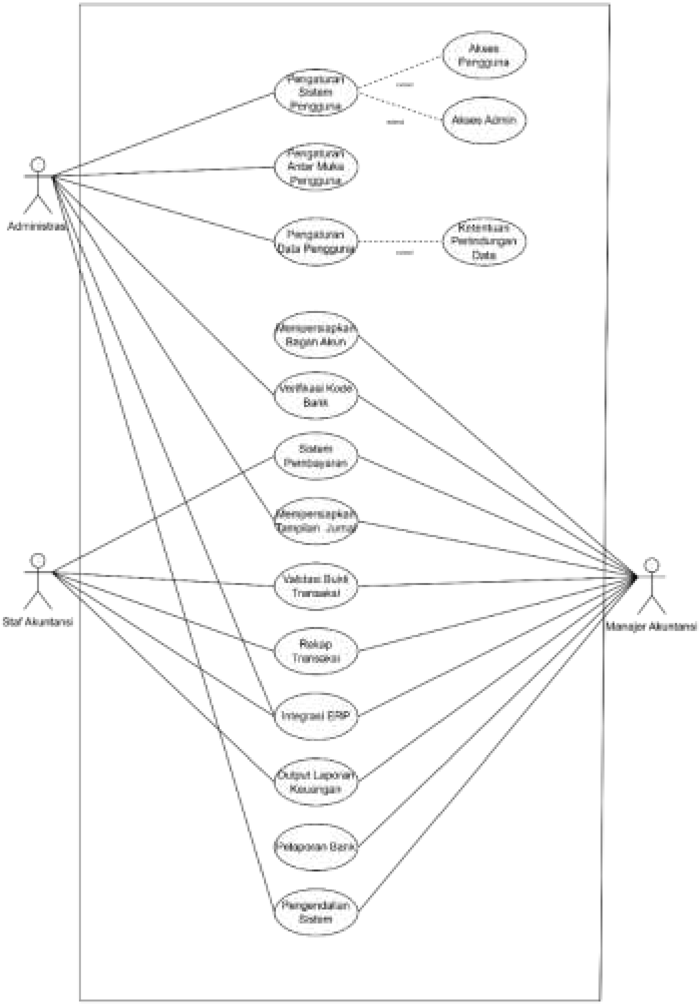

Figure 1. Use Case Diagram Design

Based on the use case diagram, the accounting information system designed using the Odoo Enterprise-based Enterprise Resource Planning (ERP) framework illustrates the interaction between the main actors, namely administrators, users, and the ERP system itself, in managing digital accounting and financial processes at Nyonyah Cake & Bakery. The proposed system was developed to support accounting digitalization by improving the efficiency of transaction recording, data validation, and financial reporting activities within the company. Overall, the ERP design consists of three integrated layers, including system and user management, accounting and financial business processes, and reporting and control functions. At the initial stage, the system focuses on user access management and data security, where administrators have authority to manage user roles, interface settings, and access permissions. This mechanism ensures that all system activities follow authorized procedures, thereby supporting data confidentiality, security, and internal control within the accounting process.

Furthermore, the ERP system is designed to manage accounting and financial activities in a more integrated and automated manner. The process begins with the preparation of the chart of accounts as the foundation for recording and classifying financial transactions, followed by bank code verification to ensure the validity of

DOI : 10.37531/amar.v6i2.3957

payment and receipt transactions. The system also facilitates automated payment processing, transaction recording through digital journals, and validation of transaction evidence to maintain data accuracy and reliability. After validation, transaction data are automatically summarized and stored within the accounting database, then integrated with other modules such as sales, purchasing, inventory, and cash management. This integration reflects the core concept of ERP, which connects multiple business functions within a single real-time information system, enabling more effective financial management, improved operational coordination, and better managerial supervision.

Figure 2. Odoo Interface Display

The ERP system automatically generates financial statements and bank reports based on validated transaction data, enabling Nyonyah Cake & Bakery to produce profit and loss statements, balance sheets, and cash flow reports more quickly and accurately without relying on time-consuming manual processes. The system also supports bank reconciliation by matching internal financial records with banking data, thereby improving the accuracy of cash and account balance management. In addition, the ERP framework includes internal control features such as user access management, transaction authorization, data security, and audit trails, allowing every financial activity within the system to be monitored transparently and accountably.

Requirements Analysis

At this stage, the data and information obtained from literature studies and field observations were used as the foundation for designing the information system to be implemented at Nyonyah Cake & Bakery. The study utilized an Enterprise Resource Planning (ERP) system, which is an integrated platform designed to manage and coordinate core business processes within an organization through a centralized database. By using ERP, organizational activities can become more efficient, transparent, and well controlled because all departments are connected within a single system. The ERP platform applied in this research was Odoo Enterprise, an open-source system known for its flexibility and ability to be customized according to company needs. Odoo Enterprise provides various operational modules, including sales, purchasing, inventory, accounting, and finance, which were configured to support the digitalization of business processes, particularly in accounting and financial management at the company.

DOI : 10.37531/amar.v6i2.3957

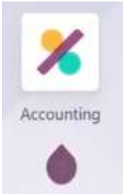

Figure 3. Accounting Logo in Odoo

Before the implementation process was carried out, the researcher conducted a system requirements analysis through final interviews to identify the company's functional and non-functional needs in detail. The functional requirements included features such as daily financial transaction recording, customer and supplier data management, cash receipt and expenditure recording, and automatic financial report generation. Meanwhile, the non-functional requirements focused on system reliability, user friendliness, information access speed, and data security in financial transaction management. The results of this analysis became the basis for configuring and customizing the Odoo Enterprise ERP system, particularly within the Accounting and Finance module, to align with the operational needs of Nyonyah Cake & Bakery. In addition, the study identified important financial data requirements, including the Chart of Accounts containing financial categories such as cash, receivables, inventory, sales, expenses, and capital, which serve as the foundation for integrated and automated accounting processes within the company.

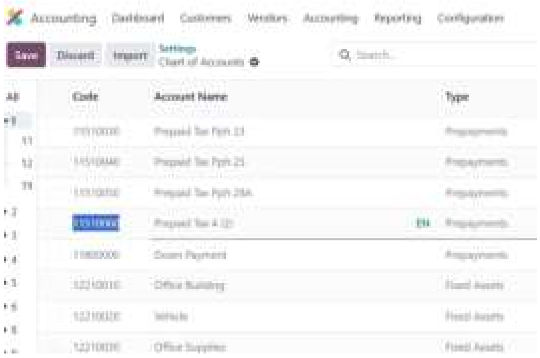

Figure 4. Settings Feature in Odoo

The system requires customer and vendor data containing identity information, addresses, contact details, and transaction histories to ensure that all sales and purchasing activities are accurately recorded and traceable when needed. The ERP system also manages financial transaction data, including general journals, sales invoices, purchase invoices, and incoming and outgoing payments, which serve as the primary source for generating automated financial reports. Other important data components include cash and bank information, such as cash balances, bank account details, and banking transaction records, which support the reconciliation process between internal company records and bank statements. Tax-related data are also integrated into the system through tax type configurations, tax rates, and tax accounts used for corporate tax reporting. All collected data are processed automatically to generate financial statements such as income statements, balance sheets, cash flow reports, and statements of changes in equity. Through this

DOI : 10.37531/amar.v6i2.3957

integrated Accounting and Finance module, Nyonyah Cake & Bakery is expected to improve the efficiency, accuracy, and reliability of financial management while providing real-time financial information that supports faster and more data-driven managerial decision-making.

Discussion

Based on the results of the problem analysis, information system analysis, and requirements analysis, the implementation of the Odoo Enterprise framework within the ERP system at Nyonyah Cake & Bakery was carried out gradually over a two-month period to ensure alignment with the operational needs of the MSME. During the implementation process, the research team continuously coordinated with the company to align existing business procedures with the ERP system developed by the developers, particularly regarding the application of PSAK-based accounting standards. Through the integration of modules such as Accounting, Sales, Purchase, and Inventory, the ERP system successfully created a more efficient workflow, minimized data redundancy, and accelerated financial recording and reporting activities within the company.

Figure 5. User Login Interface

The implementation of Odoo Enterprise also enabled management to monitor financial conditions in real time while reducing transaction recording errors, especially in transactions involving third parties. In addition, the system supported business innovation by assisting the company in estimating sales risks and production costs related to new products, such as the brownies pudding product innovation that became popular among students at SMAN 1 Katapang through the Free Nutritious Meal (MBG) program. Overall, the Odoo Enterprise-based ERP system provided a comprehensive solution for supporting accounting digitalization in the MSME sector through integrated business functions, automatic transaction validation, and faster as well as more accurate financial reporting processes.

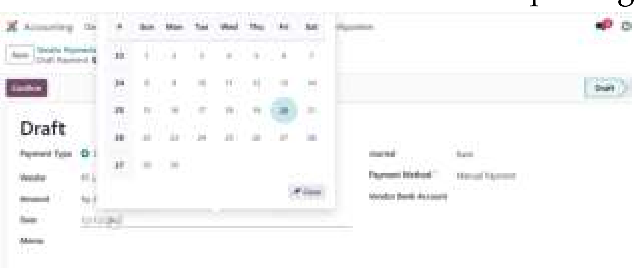

Figure 6. Company Database

DOI : 10.37531/amar.v6i2.3957

The Odoo Enterprise system further provided database management features that allowed users to create, manage, and customize databases according to organizational needs. In this implementation, Nyonyah Cake & Bakery was established as the primary company entity within the database system so that all accounting, sales, purchasing, inventory, and operational activities could be managed centrally. Every transaction and activated module was directly connected to the company database, allowing integrated financial recording and reporting processes. This integration also facilitated coordination with suppliers located around Bandung City and Bandung Regency, making business operations more organized and efficient.

Figure 7. Chart of Accounts Configuration

Another important stage in the implementation involved configuring the Chart of Accounts (COA), which functions as the foundation for recording all financial transactions within the ERP system. The COA structure was customized according to the operational needs of Nyonyah Cake & Bakery, including accounts related to raw material purchases, product sales, operational expenses, taxes, and financial reporting. Through this configuration, Odoo Enterprise was able to automatically classify transactions into the appropriate accounts, thereby improving financial recording accuracy and simplifying the accounting process. In addition, the Journal Entries feature enabled the company to record transactions systematically using a double-entry accounting approach, including sales journals, purchase journals, cash receipts, and cash payments.

Figure 8. Journal Entry Input

The final stage of implementation focused on generating financial reports automatically through the Odoo Enterprise system. Financial statements such as Profit and Loss Statements, Balance Sheets, Cash Flow Statements, and Trial Balances were produced directly from transaction data that had been recorded during the accounting period. This automated reporting process improved efficiency, transparency, and accuracy in financial management because every transaction

DOI : 10.37531/amar.v6i2.3957

update was immediately reflected in the reports. The Trial Balance feature also helped ensure balance between debit and credit accounts while supporting the preparation of final financial statements. Through this integrated ERP implementation, the company was able to strengthen financial control, improve managerial decision-making, and enhance competitiveness within the local culinary industry around Katapang and Bandung Regency.

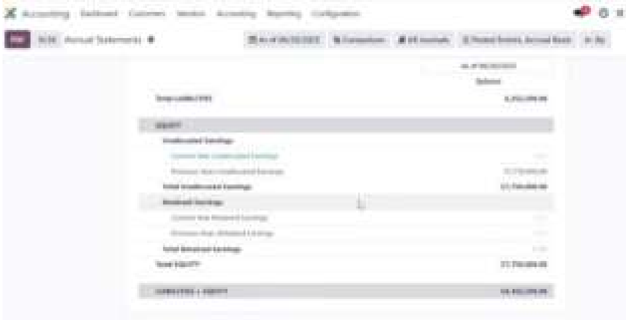

Figure 9. Financial Statement Output

CONCLUSION

The results of this study indicate that the implementation of the Odoo Enterprise-based Enterprise Resource Planning (ERP) framework at Nyonyah Cake & Bakery successfully supported the accounting digitalization process more effectively and efficiently compared to the previous manual recording system using Microsoft Excel. The implementation was conducted gradually over a two-month period to ensure alignment between the operational needs of the MSME and the system's functionality. Through the integration of modules such as Accounting, Sales, Purchase, and Inventory, the ERP system created a more transparent, organized, and efficient workflow. Financial transactions could be recorded automatically, classified into relevant accounts, and presented in real-time financial reports, thereby improving accounting accuracy, accelerating reporting processes, minimizing data errors, and strengthening financial supervision. In addition, the study introduced an adaptive ERP implementation model specifically designed for food-sector MSMEs by integrating accounting, sales, purchasing, and inventory management into a single digital ecosystem tailored to actual business needs.

Furthermore, this research contributes both theoretically and practically by presenting a flexible and cost-efficient ERP implementation model based on open-source Odoo Enterprise technology. Unlike previous studies that mainly focused on technical ERP implementation in large companies, this study emphasized gradual implementation, user adaptation, and the integration of managerial decision-making processes within MSMEs. The research also considered user acceptance factors through the Technology Acceptance Model (TAM), particularly perceived usefulness and perceived ease of use among MSME employees with limited digital literacy. The findings reinforce previous research stating that ERP implementation improves accounting information systems, operational efficiency, and financial transparency, while also demonstrating that successful ERP adoption in MSMEs depends not only on technology but also on user assistance, organizational adaptation, and the system's ability to respond to changing business conditions and consumer behavior. Future research is expected to focus on user satisfaction analysis by examining user comfort, trust, and perceived benefits through surveys and interviews involving employees who regularly interact with the ERP system.

References :

Anjarwati, S., Rosaria Zaena, R., Fitrianingsih, D., & Sulistiana, I. (2023). Pengaruh Digitalisasi Akuntansi terhadap Efisiensi dan Pengurangan Biaya pada Perusahaan Wirausaha UMKM di Kota Bandung. *Jurnal Aktiva: Riset Akuntansi dan Keuangan*, *5*(1), 57–72.

Arfikriyana, F., & Suhendi, S. (2022). Analisis dan Implementasi Modul Akuntasi pada Aplikasi ERP berbasis Open Source. *Jurnal Informatika Terpadu*, *8*(1), 13–20. https://doi.org/10.54914/jit.v8i1.385

Ayu, G. S., Rafi, J. A., & Oktaviani, M. (2024). Implementasi Enterprise Resource Planning (ERP) Odoo untuk Manajerial Akuntansi TPA Al-Muhajirin. *Journal Of Computer Science Contributions (JUCOSCO)*, *3*(1), 74–83. https://doi.org/10.31599/vnvj5s03

Capri, W., & Rahayu, P. C. (2022). Penggunaan Sistem Enterprise Resource Planning (Erp) Untuk Otomatisasi Proses Bisnis Pada Usaha Kecil Dan Menengah (Ukm …. *Researchgate.Net*, *December*.

Demilda, Y. E., Arvianto, A., & Rosyada, Z. F. (2022). Implementasi Software Odoo dengan Menggunakan Modul Accounting, Inventory, Purchase, dan Point Of Sales Pada Toko Al Hikmah Mart (Ah Mart) Di Bogor Jawa Barat. *Industrial Engineering Online Journal*, *11*(4), 343–354.

Fauzi, Leni Rahmayana, Ika Wulandari, & Bagus Hari Sugiharto. (2023). Mengapa Digitalisasi Akuntasi Harus di Lakukan Pada Perusahaan UMKM : Sebuah Tinajaun Pustaka. *Jurnal Aktiva : Riset Akuntansi dan Keuangan*, *5*(1), 43–56. https://doi.org/10.52005/aktiva.v5i1.179

Karlina, K., Shafa, L. N., Millasyifa, N., & Sulaeman, E. (2024). Implementasi Enterprises Resources Planning Berbasis Odoo Pada Umkm Diva Home Cake. *Jurnal Industri Kreatif dan Kewirausahaan*, *7*(1), 42–50. https://doi.org/10.36441/kewirausahaan.v7i1.1909

Lailatus Sak'adah, S. (2024). Implemetasi ERP Berbasis Odoo untuk MeningkatkanEfektivitas Point Of Sale dan Accounting. *Qualitative Research of Business and Social Science*, *1*(2), 62–74.

Mayori, E., & Aslami, N. (2022). Analisis Pengembangan Manajemen Perubahan dalam Upaya Meningkatkan Efektivitas Penerapan Enterprise Resource Planning (Studi Kasus Pada PT.INDAKO BINJAI). *Jurnal Ilmu Komputer, Ekonomi dan Manajemen (JIKEM)*, *2*(1), 1923–1932.

Mubarok, Sari, Wibowo, M. (2025). Comparative Study of Artificial Intelligence (AI) Utilization in Digital Marketing Strategies Between Developed and Developing Countries: A Systematic Literature Review. *Ilomata International Journal of Management*, *6*(1), 156–173. https://doi.org/10.61194/ijjm.v6i1.1534

Rahmatila, A., W, R. E., R, D. R., & P, Y. A. (2022). Penerapan Enterprise Resource Planning Berbasis Odoo pada Modul CRM (Studi Kasus UMKM Credeva). *JITTER : Jurnal Ilmiah Teknologi dan Komputer*, *3*(3), 1302. https://doi.org/10.24843/jtrti.2022.v03.i03.p05

Sugiyono, P. D. (2019). Buku sugiyono, metode penelitian kuantitatif kualitatif. In *Revista Brasileira de Linguística Aplicada* (Vol 5, Number 1).

Sulistiami, J., & Nopiana, M. (2024). Implementasi Enterprise Resource Planning ODOO Untuk UMKM Studi Kasus Raturatus. *Jurnal Ilmiah Wahana Pendidikan*, *10*(2), 484–492.