



The Application of Supply Chain Management Concepts to Improve Business Process Efficiency and Data Quality in Financial Reports

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Abstract

Konveksi Puji 25 is a garment manufacturing business facing challenges in supply chain management and financial recording, including suboptimal supplier selection, unstructured raw-material inventory management, and manual financial reporting. These conditions contribute to production delays, operational data inaccuracies, and inefficient business processes. This study aims to design an integrated system based on Supply Chain Management (SCM) concepts to improve business-process efficiency and data quality in financial reports at Konveksi Puji 25. An empirical qualitative case-study approach was employed through direct observation, interviews with the business owner and employees, and documentation of procurement, inventory, production, sales, purchasing, and financial-recording activities. Analytical Hierarchy Process (AHP) was applied to evaluate suppliers based on quality, delivery, price, and warranty and customer service criteria, while System Design and Engineering was used to develop the system architecture through a Context Diagram, Data Flow Diagram (DFD), and Conceptual Design. A VBA-based financial reporting system was developed in Microsoft Excel to integrate transaction recording, inventory, accounts payable and receivable, journals, ledgers, and financial statements. The AHP results identified Supplier 2 as the preferred supplier with a priority value of 52.7%, compared with 47.3% for Supplier 1. The integrated system provides a structured mechanism for improving operational data management, financial reporting, and decision-making. The study demonstrates the practical potential of integrating SCM, AHP, system design, and VBA technology to support more efficient and data-driven business processes in SMEs.

Keywords: Analytical Hierarchy Process (AHP), Business Process Efficiency, Financial Reports, Supply Chain Management, Visual Basic for Applications (VBA).



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INTRODUCTION

Supply chain management has become an increasingly important component of contemporary business strategy as organizations face growing pressure to improve operational efficiency, information visibility, and responsiveness across interconnected business activities. The global development of supply chain digitalization has shifted the focus from conventional material movement toward integrated management of physical, informational, and financial flows across organizational boundaries (Perano et al., 2023). This transformation is further accelerated by the adoption of artificial intelligence, Internet of Things, blockchain, and big data technologies, which are increasingly incorporated into supply chain quality management to strengthen traceability, coordination, and decision-making (Kadam & Vaidya, 2025). For manufacturing enterprises, particularly small and medium-sized enterprises (SMEs), the effectiveness of these interconnected processes is closely related to the ability to coordinate procurement, inventory, production, sales, and financial recording through reliable information. Supply chain effectiveness has also been associated with integrated financial management information systems because coordination between operational and financial functions can strengthen organizational control and information availability (Mbaka & Namada, 2019). This condition establishes a contemporary business context in which supply chain management is no longer limited to the physical movement of materials and products but increasingly involves the integration of operational processes with the information required for financial management. The quality and timeliness of information generated throughout these processes consequently become important determinants of managerial decision-making and organizational performance.

Research conducted in recent years has demonstrated that information integration can substantially influence the efficiency and quality of business processes. Information sharing within supply chains can improve company productivity by reducing information asymmetry and enabling more coordinated activities among organizational units and supply chain participants (Sugito & Kusrini, 2023). Financial information systems similarly contribute to business process improvement by structuring transaction processing and providing more reliable information for managerial and financial activities (Ekasari et al., 2022). Research on accounting information system management further indicates that the quality of financial reports is influenced by the interaction between accounting information systems and the business processes through which financial data are generated, processed, and reported (Assyarofi & Ifada, 2024). These findings suggest that financial reporting quality cannot be considered solely an accounting function because the accuracy of financial information is dependent on the quality of preceding operational transactions. Digital financial reporting platforms have consequently emerged as an alternative for improving the accessibility and organization of financial information, particularly among businesses that previously relied on fragmented administrative practices (Gunawan et al., 2023). Computerized financial recording has also been applied to SMEs as a practical mechanism for improving the organization and documentation of financial transactions (Sari & Wulandari, 2023). The collective evidence indicates that improving financial reporting requires attention to the broader business processes that generate financial data rather than focusing exclusively on the final reporting stage.

A critical issue within the existing literature concerns the limited integration between supply chain decision-making and financial information management. Supplier selection studies have established Analytical Hierarchy Process (AHP) as an effective approach for evaluating suppliers according to multiple criteria, particularly when managerial decisions involve competing qualitative and quantitative considerations (Anggani & Baihaqi, 2017). The theoretical foundation of AHP enables complex decision problems to be decomposed into hierarchical structures and evaluated through systematic priority determination, making the method suitable for supplier selection in uncertain business environments (Saaty, 1980). Similar applications demonstrate that AHP can provide a more structured and objective basis for supplier selection than informal decision-making practices (Handayani & Darmianti, 2017). However, existing applications frequently concentrate on producing supplier rankings without examining how supplier selection subsequently influences inventory processes, transaction flows, operational efficiency, and financial reporting. Consistency measurement within AHP can strengthen the reliability of decision preferences, yet consistency in the decision model does not automatically ensure that the selected supplier will improve downstream business processes (Padmowati, 2015). This creates a conceptual gap between supplier-level decision optimization and organization-level process integration. The literature therefore provides substantial evidence regarding individual techniques but offers comparatively limited empirical explanation of how supplier selection can be embedded within an integrated framework that simultaneously addresses operational efficiency and financial data quality in SMEs.

The unresolved integration problem has important scientific and practical implications because fragmented business processes can create cumulative effects across the entire information cycle. Manual procurement records, unstructured supplier evaluation, basic inventory monitoring, and disconnected financial transactions may generate inconsistencies that are difficult to identify once operational data have entered the financial reporting process. The increasing emphasis on accounting data integrity demonstrates that reliable financial information requires mechanisms capable of maintaining data consistency throughout the transaction and information lifecycle rather than only at the reporting stage (Yang & Yin, 2023). Technological innovations in financial reporting have similarly demonstrated potential for strengthening transparency, accounting reliability, and liquidity management, although sophisticated technologies are not necessarily appropriate for resource-constrained SMEs (Dashkevich et al., 2024). Business Process Management research further establishes that the design and management of business processes can influence financial performance, reinforcing the need to investigate operational processes as an important determinant of financial outcomes (Javadi et al., 2025). For SMEs, this issue is particularly significant because limited human resources and technological infrastructure often encourage reliance on manual procedures, increasing exposure to recording errors, delays, duplicated information, and weak managerial visibility. Recent development of supply chain information system frameworks demonstrates the continuing movement toward

integrated information architectures for manufacturing operations, while practical implementation at SME level remains an area requiring further empirical attention (Magdalena et al., 2026). Addressing this problem requires a system that does not merely computerize existing administrative activities but restructures the relationship between supply chain decisions, operational transactions, and financial information.

The present research is positioned within this gap by examining supply chain management as an integrated business process mechanism that can simultaneously support operational efficiency and financial data quality in an SME manufacturing environment. The empirical setting is Konveksi Puji 25, a garment manufacturing business that has operated since 2016 and produces various types of men's and women's clothing. The company faces several interconnected operational problems, including the absence of a structured supplier selection mechanism, relatively simple raw-material inventory management, and manual financial transaction recording, conditions that can contribute to production delays, inadequate inventory control, recording errors, and limited financial information for managerial decisions. These challenges became increasingly relevant following reduced demand during the COVID-19 pandemic and the subsequent increase in production capacity beginning in early 2024, which created greater requirements for coordinated and reliable business processes. The research responds to this situation by integrating AHP for supplier selection, VBA for computerized financial reporting, and System Design and Engineering as the basis for developing the proposed system. The use of VBA is supported by recent research demonstrating its practical applicability for developing simple financial reporting systems that can assist SMEs in organizing and automating financial information (Axshelby & Sharasanti, 2025). The integrated perspective also corresponds to broader discussions concerning risk governance, financial compliance, supply chain resilience, and enterprise data management, where operational and financial information are increasingly treated as interconnected organizational resources (Soundappan, 2022). This positioning enables the study to extend previous research from isolated supplier selection or financial digitization toward an integrated improvement of the business processes that connect supply chain activities with financial reporting.

This study aims to apply Supply Chain Management concepts to improve business process efficiency and data quality in financial reports at Konveksi Puji 25 through the integration of structured supplier selection and computerized financial information management. The research develops an AHP-based supplier selection mechanism, implements a VBA-supported financial reporting system, and applies a System Design and Engineering approach to establish an integrated system aligned with the company's operational requirements. The theoretical contribution lies in extending the application of supply chain management from the coordination of material and information flows toward the generation and improvement of financial data quality within an SME business process environment. The methodological contribution lies in combining multi-criteria decision-making, practical information-system development, and business process integration within a single research framework. The study is also expected to provide an applicable approach for SMEs that require improved supply chain coordination and financial reporting but have limited capacity to adopt complex enterprise technologies. At the practical level, the proposed system is intended to support more structured supplier decisions, improve operational information management, reduce potential recording errors, and accelerate financial reporting activities. The resulting framework provides an integrated perspective for understanding how improvements in upstream supply chain decisions and internal business processes can contribute to more efficient operations and higher-quality financial information.

RESEARCH METHODS

This study employed an empirical qualitative case-study approach combined with system development at Konveksi Puji 25, because the research involved direct observation of existing business processes and the implementation of a proposed integrated system. Data were collected through direct observation, interviews with the business owner and employees, and documentation of procurement, supplier selection, raw-material inventory, production, sales, purchasing, and financial-recording activities to establish the baseline process and system requirements. The system architecture was developed using a System Design and Engineering approach, beginning with System Analysis to identify stakeholders, problem owners, problem users, problem customers, existing process constraints, and required information flows, followed by the development of a Context Diagram, Data Flow Diagram (DFD), and Conceptual Design. The proposed architecture connects customer orders, raw-

material procurement, supplier selection, inventory management, production activities, sales and purchasing transactions, and financial reporting so that operational data can flow systematically into financial information, reflecting the importance of integrated information systems in improving business-process quality (Ekasari et al., 2022). Supplier selection was implemented using the Analytical Hierarchy Process (AHP), with quality, delivery reliability, price, and warranty/service as evaluation criteria, while pairwise comparisons were used to determine criterion and supplier priorities and the consistency ratio was calculated to assess the logical consistency of managerial judgments (Saaty, 1980). The financial information component was implemented using Microsoft Excel with Visual Basic for Applications (VBA), integrating transaction recording, inventory records, accounts payable and receivable, general journals, ledgers, and financial statements within a structured workbook-based system, consistent with the practical application of VBA for SME financial reporting (Axshelby & Sharasanti, 2025). The implementation sequence consisted of current-process analysis, requirement identification, system modelling, AHP supplier-selection modelling, VBA financial-system development, data integration, and preparation of the integrated system for functional evaluation.

System evaluation was conducted through functional testing and comparative assessment of business processes before and after implementation of the proposed system, with the evaluation designed to determine improvements in supplier-selection effectiveness, inventory information management, transaction-recording efficiency, and financial-reporting quality. Functional validation was performed using representative operational scenarios covering supplier evaluation, purchasing, inventory recording, sales transactions, accounts payable and receivable, journal generation, ledger processing, and financial-statement preparation, while system outputs were compared with predetermined expected outputs. The AHP component was validated by examining pairwise-comparison calculations, priority weights, supplier rankings, and the consistency ratio to ensure that the resulting decision structure was logically acceptable, as consistency evaluation is an important component of AHP-based decision-making (Padmowati, 2015). The VBA-based financial reporting module was validated by tracing transaction inputs through inventory and accounting records to the resulting journals, ledgers, and financial statements, enabling data accuracy and consistency to be examined throughout the reporting workflow. Performance evaluation focused on process completion time, recording accuracy, reduction of manual processing activities, availability of integrated information, and completeness and consistency of financial-report outputs before and after the proposed system. The evaluation also examined whether computerized recording could improve the organization and reliability of SME financial information, consistent with evidence that computerization can support more structured financial recording and reporting activities (Sari & Wulandari, 2023). The final assessment compared the baseline conditions with the outputs generated by the integrated SCM, AHP, and VBA system to determine its effectiveness in improving business-process efficiency and the quality of financial-reporting data at Konveksi Puji 25, while maintaining a direct connection between operational information sharing and supply chain performance (Sugito & Kusriani, 2023).

RESULTS AND DISCUSSION

Supplier Selection Using Analytical Hierarchy Process (AHP)

The supplier selection process at Konveksi Puji 25 was identified as one of the critical components affecting the continuity of raw-material procurement and production activities. Based on direct observation and interviews with the business owner, supplier selection had previously been conducted without a structured evaluation mechanism that could systematically compare supplier performance across multiple dimensions. This condition created a risk of selecting suppliers based predominantly on individual experience or immediate considerations, while factors such as material quality, delivery reliability, price, and after-sales service could have different implications for production continuity. The implementation of AHP provided a structured decision-making mechanism by decomposing the supplier selection problem into criteria, subcriteria, and supplier alternatives, allowing managerial preferences to be represented through pairwise comparisons (Saaty, 1980). The approach is relevant to supply chain decision-making because supplier performance directly influences the availability and quality of materials entering subsequent production activities. Previous empirical applications have also demonstrated that AHP can support supplier selection by providing a systematic basis for comparing alternatives according to multiple organizational requirements (Anggani & Baihaqi, 2017). The findings indicate that the supplier selection problem at Konveksi Puji 25 required a decision

framework that could transform subjective managerial judgments into a more traceable and structured evaluation process.

The criteria used in the AHP model were established through observations and interviews and subsequently verified with the owner of Konveksi Puji 25 to ensure their relevance to the company's operational requirements. Four principal criteria were identified, namely quality, delivery, price, and warranty and customer service, each of which was further represented by operational subcriteria relevant to the procurement of garment materials. Quality was associated with fabric color, fabric strength, and fabric durability, while delivery incorporated delivery time, delivery distance, and order conformity. Price represented the economic consideration in procurement, whereas warranty and customer service reflected the supplier's responsibility in handling returned products and providing service after transactions. The resulting hierarchy is presented in Table 1, which shows the relationship between the principal criteria and their respective subcriteria. The structure demonstrates that supplier suitability was not determined solely by purchasing cost, because material characteristics and service reliability can influence production continuity and the potential cost of supply disruption. Such multidimensional consideration is consistent with supplier-selection research in which AHP is applied to evaluate alternatives according to several criteria rather than relying on a single purchasing attribute (Handayani & Darmianti, 2017).

Table 1. Supplier Selection Criteria

No.	Criteria	Sub-Criteria	Explanation
1	Quality	Fabric Color	The fabric color does not fade easily.
		Fabric Strength	The fabric does not tear or become easily damaged.
		Fabric Durability	The fabric has a high level of durability and does not deteriorate easily.
2	Delivery	Delivery Time	The delivery is fast and there are no delays.
		Delivery Distance	Compares the distance between the supplier and the company.
3	Price	—	The price is affordable and has been determined along with the shipping cost.
4	Guarantee and Customer Service	Order Accuracy	The delivered order exactly matches the order placed.
		Guarantee of Refund or Material Replacement	Items that do not meet the requirements can be returned or exchanged for suitable materials.
		Delivery Time Guarantee	The delivery arrives within the time specified by the supplier.

The hierarchy established in Table 1 was subsequently converted into pairwise comparison matrices based on assessments provided by the owner of Konveksi Puji 25. Each criterion and relevant alternative was compared according to its relative importance, allowing the decision model to generate priority weights that represented the owner's preferences regarding supplier performance. The comparison process was conducted using Expert Choice to facilitate the calculation of priority values and consistency assessment within the hierarchical model. The use of pairwise comparison is important because it enables decision-makers to express relative preferences between criteria rather than assigning isolated scores without establishing their comparative significance. Consistency testing was incorporated into the procedure because a valid AHP decision model requires judgments that remain sufficiently coherent across the comparison matrix (Padmowati, 2015). The resulting calculation provided a quantitative representation of managerial preferences while retaining the operational knowledge obtained from the case-study setting. This process transformed the supplier-selection

activity from an informal purchasing decision into a reproducible multi-criteria evaluation procedure that can be applied when supplier conditions or procurement requirements change.

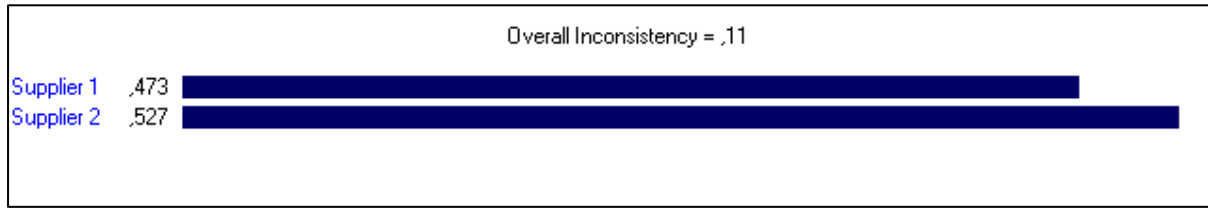


Figure 1. Weight Calculation Results Using Expert Choice

The results presented in Figure 1 show that Supplier 2 obtained the highest overall priority value of 52.7%, whereas Supplier 1 obtained 47.3%. The difference of 5.4 percentage points indicates that Supplier 2 achieved a higher aggregate suitability when evaluated against the criteria incorporated into the AHP hierarchy. The result does not imply that Supplier 1 was unsuitable, but rather indicates that Supplier 2 provided a closer overall match to the preference structure established for Konveksi Puji 25. The higher priority of Supplier 2 was particularly associated with the company's consideration of material quality, delivery performance, and supplier service, which are operational factors capable of affecting the continuity of garment production. AHP-based supplier selection similarly emphasizes the importance of evaluating supplier alternatives through a structured hierarchy so that the final ranking reflects the relative importance of organizational requirements (Anggani & Baihaqi, 2017). The quantitative ranking therefore provides a stronger managerial basis for supplier selection than an unstructured comparison because the recommendation can be traced to explicit criteria and weighted judgments.

The selection of Supplier 2 has direct implications for supply chain efficiency because the supplier decision represents an upstream input that influences subsequent inventory and production activities. A supplier that provides materials according to the required quality and delivery specifications can reduce the likelihood of production interruptions caused by unsuitable or delayed raw materials. From a supply chain perspective, the result also demonstrates how information generated during supplier evaluation can support subsequent procurement decisions and improve coordination between purchasing and production activities. Information sharing and structured information flows are recognized as important mechanisms for improving productivity because operational decisions become more responsive when relevant information is available across supply chain activities (Sugito & Kusri, 2023). The AHP result at Konveksi Puji 25 therefore functions not only as a supplier ranking but also as an information input for subsequent procurement and inventory management decisions. The integration of this decision mechanism into the broader system design strengthens the connection between supplier evaluation and business-process efficiency. The finding provides an empirical basis for treating supplier selection as an integral component of SCM implementation rather than as an isolated purchasing activity.

From the perspective of decision quality, the AHP implementation provides a formal mechanism for aligning supplier selection with the actual operational priorities of Konveksi Puji 25. The use of quality, delivery, price, and warranty and customer service captures several dimensions of supplier performance that are relevant to maintaining a stable flow of garment materials. The resulting 52.7% priority for Supplier 2 establishes a clear recommendation that can be documented and reproduced through the same evaluation hierarchy when future supplier assessments are required. This characteristic is important for an SME environment because a structured decision model can reduce dependence on undocumented individual judgments while retaining managerial involvement in defining business priorities. The result also complements the broader development of integrated supply chain systems, in which information from procurement activities should be available to support operational planning and subsequent business processes. Supplier selection through AHP can therefore be interpreted as the decision-making layer of the proposed SCM framework, while the subsequent inventory and financial information system provides the information-management layer. The integration of these layers establishes a direct analytical link between supplier performance, operational continuity, and the quality of information used in later business and financial processes.

VBA-Based Financial Reporting System Design

The financial recording process at Konveksi Puji 25 was identified as another critical component requiring improvement because financial transactions were previously recorded through manual procedures that limited the speed, consistency, and accessibility of financial information. The integration of a computerized financial reporting system was designed to connect operational transactions with accounting records so that data generated from purchasing, sales, inventory, receivables, payables, and other activities could be processed systematically. This approach is consistent with the view that financial information systems can improve business-process quality by establishing structured mechanisms for collecting, processing, and presenting transaction information (Ekasari et al., 2022). The proposed system was developed using Microsoft Excel and Visual Basic for Applications (VBA), which provides a relatively accessible technological platform for SMEs that require automation without adopting complex enterprise-level infrastructure. Previous implementation of VBA for SME financial reporting has demonstrated its potential to simplify transaction recording and support the preparation of financial statements through automated spreadsheet-based processes (Axshelby & Sharasanti, 2025). The development was preceded by system modelling to ensure that the relationship between operational activities and financial information could be represented consistently. This design orientation positioned the financial reporting system as an integrated component of business-process improvement rather than merely as a digital replacement for manual bookkeeping.

The system architecture was initially represented through a Context Diagram, Diagram Decomposition, and Data Flow Diagram (DFD) to define the movement of information between users, operational activities, transaction-processing functions, and financial outputs. The Context Diagram establishes the boundary of the proposed system and identifies the interaction between the system and external entities, while the DFD provides a more detailed representation of how data move through individual processes. Figure 2 presents the Context Diagram, which provides the highest-level representation of the system interaction and clarifies the relationship between operational inputs and information outputs. The modelling approach allows each transaction to be traced from its point of entry toward the corresponding processing and reporting activities, reducing ambiguity in the design of interconnected functions. The use of structured system modelling is relevant because financial information quality depends not only on the recording interface but also on how information is processed and transferred between business activities (Assyarofi & Ifada, 2024). The DFD subsequently provides the basis for identifying the processes that must be integrated within the application, as shown in Figure 3, particularly those associated with transaction recording and financial reporting. The resulting architecture establishes a clear information pathway in which operational data become inputs for accounting processes and ultimately contribute to the generation of financial reports.

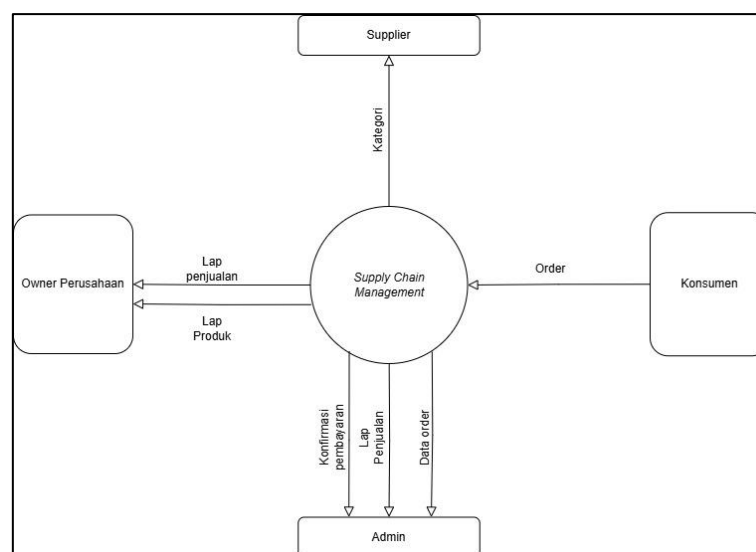


Figure 2. Context Diagram

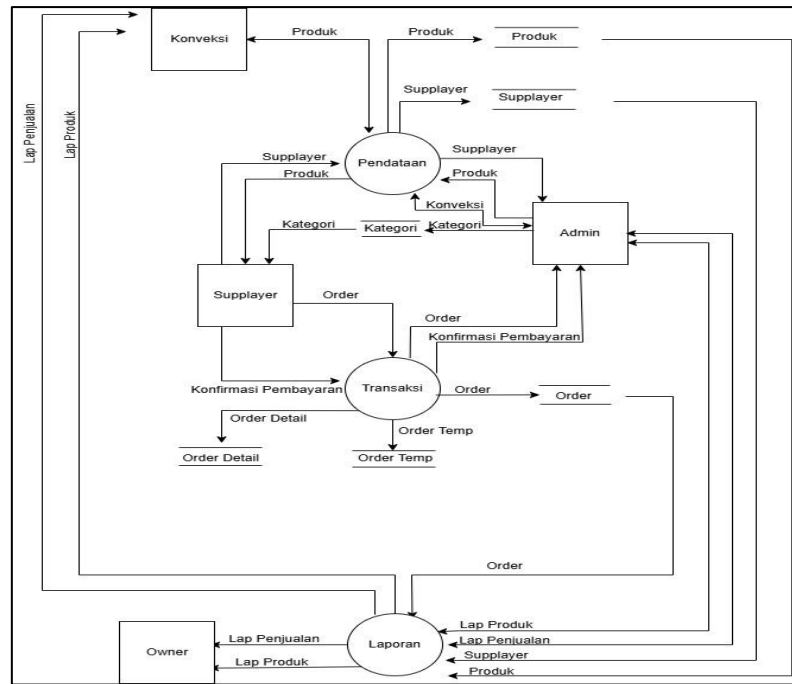


Figure 3. DFD Level 0

The implementation of the system translated the conceptual architecture into an integrated VBA-based application containing several functional modules for operational and financial data management. The main interface consists of a dashboard, account data, item master, purchasing, sales, returns, refunds, accounts payable, accounts receivable, general ledger, journals, and financial reports, allowing different transaction categories to be processed within a common information environment. Figure 4 illustrates the dashboard interface, which provides centralized access to the major functions and supports more organized interaction with the system. The integration of these modules means that transaction information entered at the operational level can become an input for subsequent accounting processes without requiring repeated manual transcription. Such integration is important because fragmented information processing can create inconsistencies between operational records and financial reports, whereas integrated financial information systems provide a mechanism for improving the quality of business processes (Ekasari et al., 2022). The design also reflects the increasing use of digital financial reporting platforms to make financial information more accessible and manageable for business users (Gunawan et al., 2023). The resulting architecture therefore emphasizes functional connectivity, where each module contributes to a broader information flow rather than operating as an independent spreadsheet function.

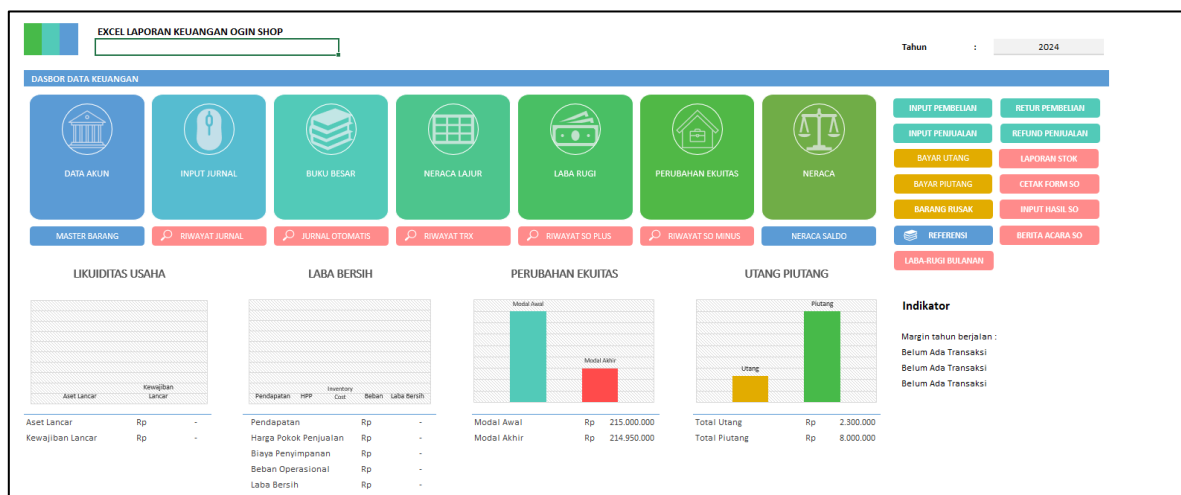


Figure 4. Dashboard Features

The purchasing and sales modules represent the primary transaction-entry functions through which operational activities are converted into structured business data. The purchasing module records transaction date, supplier, invoice number, item, purchase price, and quantity, allowing procurement activities to be documented together with information relevant to inventory and financial processing. Figure 5 presents the purchasing interface, while Figure 6 presents the sales interface used to record sales transactions and their associated operational information. The separation of purchasing and sales inputs provides clearer transaction classification while maintaining integration with the broader financial reporting workflow. This arrangement is particularly important for data quality because transaction attributes can be captured at the point of occurrence rather than reconstructed during the preparation of financial statements. The system also incorporates return and refund functions to accommodate transactions involving returned goods or returned funds, expanding the system's ability to represent operational events that can affect inventory and financial balances. Computerized transaction recording of this type can improve the organization of SME financial information by replacing fragmented manual records with structured and traceable data (Sari & Wulandari, 2023). The integration of these transaction modules creates a continuous information flow from business activities toward accounting outputs.

INPUT PEMBELIAN - [Max. 5.000 Transaksi]										MASTER BARANG		RETUR		UTANG		 DASHBOARD	
NO	TANGGAL	NO. FAKTUR PEMBELIAN	NAMA SUPPLIER	KODE	NAMA BARANG		SATUAN	PEMBAYARAN	JUMLAH	HARGA BELI	TOTAL HARGA BELI	HARGA POKOK MOVING AVERAGE	SISA STOK PER TANGGAL				
1	01-Sep-2024	B.010923.01	PT Baju	B.1	Baju 1		pcs	Tunai	10	Rp 60.000	Rp 600.000	Rp 55.000	20				
2	01-Sep-2024	B.010923.01	PT Baju	B.2	Baju 2		pcs	Tunai	10	Rp 60.000	Rp 600.000	Rp 55.000	20				
3	01-Sep-2024	B.010923.01	PT Baju	B.3	Baju 3		pcs	Tunai	10	Rp 60.000	Rp 600.000	Rp 55.000	20				
4	01-Sep-2024	B.010923.02	PT Baju	B.4	Baju 4		pcs	Kredit	10	Rp 60.000	Rp 600.000	Rp 55.000	20				
5	01-Sep-2024	B.010923.02	PT Baju	B.5	Baju 5		pcs	Kredit	10	Rp 60.000	Rp 600.000	Rp 55.000	20				
6	02-Sep-2024	B.020923.01	PT Celana	C.1	Celana 1		pcs	Kredit	10	Rp 70.000	Rp 700.000	Rp 60.000	20				
7	02-Sep-2024	B.020923.01	PT Celana	C.2	Celana 2		pcs	Kredit	10	Rp 70.000	Rp 700.000	Rp 60.000	20				
8	02-Sep-2024	B.020923.01	PT Celana	C.3	Celana 3		pcs	Kredit	10	Rp 70.000	Rp 700.000	Rp 60.000	20				
9	02-Sep-2024	B.020923.02	PT Celana	C.4	Celana 4		pcs	Transfer BSI	10	Rp 70.000	Rp 700.000	Rp 60.000	20				
10	02-Sep-2024	B.020923.02	PT Celana	C.5	Celana 5		pcs	Transfer BSI	10	Rp 70.000	Rp 700.000	Rp 60.000	20				
11	03-Sep-2024	B.030923.01	PT Tas	T.1	Tas 1		pcs	Tunai	10	Rp 80.000	Rp 800.000	Rp 65.000	20				

Figure 5. Purchasing Features

INPUT PENJUALAN - [Max. 5.000 Transaksi]										MASTER BARANG		REFUND		PIUTANG		 DASHBOARD	
NO	TANGGAL	NOMOR FAKTUR PENJUALAN	NAMA PELANGGAN	KODE	NAMA BARANG	SATUAN	PEMBAYARAN	JUMLAH	HARGA JUAL	TOTAL HARGA JUAL	TOTAL HARGA POKOK PENJUALAN	SISA STOK PER TANGGAL					
1	05-Sep-2024	J.050923.01	Adam	B.1	Baju 1	pcs	Tunai	1	Rp 250.000	Rp 250.000	Rp 55.000	18					
2	05-Sep-2024	J.050923.01	Adam	C.1	Celana 1	pcs	Tunai	1	Rp 250.000	Rp 250.000	Rp 60.000	19					
3	06-Sep-2024	J.060923.01	Sitta	T.2	Tas 2	pcs	Kredit	5	Rp 250.000	Rp 1.250.000	Rp 350.000	15					
4	07-Sep-2024	J.070923.01	Ayu	S.4	Sepatu 4	pcs	Transfer Mandiri	2	Rp 250.000	Rp 500.000	Rp 100.000	8					
5	07-Sep-2024	J.070923.02	Dewi	C.4	Celana 4	pcs	Transfer BSI	9	Rp 250.000	Rp 2.250.000	Rp 540.000	10					

Figure 6. Sales Features

The system further incorporates functions for accounts payable, accounts receivable, damaged goods, SO Plus, SO Minus, journal history, transaction history, general ledger, trial balance, worksheet, journal input, and automated journals. These functions extend the application beyond basic transaction recording by providing mechanisms for processing, reviewing, and summarizing information required for financial reporting. Figure 7 illustrates the general ledger function, which organizes transaction information according to accounts and provides a structured basis for monitoring account movements. Figure 8 presents the journal function, including automated journal processing that reduces the need to repeatedly enter accounting information generated from operational transactions. The integration of journals and ledgers is particularly relevant to data quality because financial information can be traced from transaction records into summarized accounting outputs, supporting greater consistency across reporting stages. Such integration corresponds to research emphasizing the relationship between accounting information system management, business processes, and the quality mechanism of financial reports (Assyarofi & Ifada, 2024). The system consequently provides an information architecture in which operational and accounting data are connected through predefined processing functions rather than maintained as unrelated records.

BUKU BESAR		Nama Akun : Utang Deviden	No. Akun : 324		INPUT JURNAL	
Tgl.	Uraian	Ref	Debit	Kredit	Saldo	
			Rp	Rp	D	K
	Saldo Awal		-	-	-	-

Figure 7. General Ledger Features

JURNAL OTOMATIS PEMBELIAN						
TANGGAL	TIPE	TRANSAKSI	NOMINAL		DEBIT	KREDIT
01-Sep-2024	OTOMATIS	Pembelian	Rp	600.000	Persediaan Baju	Kas
01-Sep-2024	OTOMATIS	Pembelian	Rp	600.000	Persediaan Baju	Kas
01-Sep-2024	OTOMATIS	Pembelian	Rp	600.000	Persediaan Baju	Kas
01-Sep-2024	OTOMATIS	Pembelian	Rp	600.000	Persediaan Baju	Utang Dagang
01-Sep-2024	OTOMATIS	Pembelian	Rp	600.000	Persediaan Baju	Utang Dagang

Figure 8. Journal Features

The implementation of the VBA system establishes a more structured pathway for transforming operational transaction data into financial information required by management. Data entered into the system become the basis for subsequent transaction processing, journal generation, ledger updating, and preparation of financial reports, creating a traceable relationship between the original business activity and its accounting representation. This structure is particularly relevant to the objective of improving data quality because the reliability of financial reports depends substantially on the accuracy, completeness, and consistency of the underlying transaction data. The automation provided by VBA can reduce repetitive manual activities and improve the efficiency of financial recording, while its spreadsheet-based environment remains relatively practical for an SME with limited technological resources (Axshelby & Sharasanti, 2025). The system also supports more timely access to financial information because processed transactions can be reflected in related accounting outputs without requiring separate manual compilation. From a business-process perspective, this integration strengthens the connection between operational activities and financial reporting, supporting the principle that improvements in process structure can contribute to financial performance and managerial control (Javadi et al., 2025). The resulting system therefore functions as an information-processing infrastructure that supports both operational efficiency and the production of more consistent financial data at Konveksi Puji 25.

Social Media and Online Shop Marketing Strategy

The implementation of Supply Chain Management at Konveksi Puji 25 was complemented by a digital marketing strategy involving social media and online shop channels to strengthen the connection between production activities and market demand. This strategy was developed to expand market reach, improve product communication, and provide additional channels through which potential customers could access information about the company's products. Social media provides SMEs with an accessible mechanism for disseminating product information, interacting with consumers, developing brand exposure, and reaching market segments beyond conventional geographic boundaries. A systematic literature review on MSME marketing strategies indicates that social media can support promotional activities, customer engagement, and market development when its utilization is aligned with business objectives (Ariyati et al., 2024). The use of digital channels is also relevant to SCM because information generated from market interactions can provide an indication of customer demand that may subsequently influence production and inventory decisions. The marketing strategy at Konveksi Puji 25 therefore extends the SCM perspective from upstream supplier coordination toward downstream customer interaction. This orientation creates a more connected business process in which marketing information can complement procurement, production, sales, and financial information.

The proposed strategy consists of four principal components: social media, online shop, word of mouth, and digital promotional posters. Social media is positioned as a communication channel for introducing products, presenting product characteristics, and maintaining interaction with potential customers, while the online shop functions as a digital sales channel through which customer interest

can be converted into measurable transactions. Customer recommendations through word of mouth provide an additional mechanism for extending product information through existing consumers and their social networks. The digital promotional poster functions as supporting visual content that can be distributed through social media and other digital communication channels. The relationship among these components is summarized in Table 2, which demonstrates how each marketing activity contributes to a specific business function without separating promotional activities from the broader sales process. This structure is consistent with evidence that social media marketing can help MSMEs improve market exposure and customer communication through relatively accessible digital platforms (Ariyati et al., 2024).

Table 2. Digital Marketing Strategy at Konveksi Puji 25

Marketing Component	Implementation	Expected Business Function
Social Media	Product promotion and information dissemination	Expand market reach
Online Shop	Digital product sales channel	Facilitate transactions
<i>Word of Mouth</i>	Customer recommendations	Increase product exposure
Digital Promotional Poster	Visual promotional content	Strengthen product communication

The online shop component provides a more direct connection between promotional activities and downstream supply chain processes because customer orders can generate information concerning product demand. Information obtained from digital transactions can indicate product preferences, purchasing patterns, and sales activity that may subsequently be considered in production and inventory planning. This relationship is particularly relevant to Konveksi Puji 25 because fluctuations in demand can influence the quantity of raw materials required and the production capacity that needs to be prepared. Supply chain digitalization has increasingly emphasized information connectivity and visibility as mechanisms for improving organizational responsiveness to changing market and operational conditions (Perano et al., 2023). The integration of online sales information with the company's operational records can therefore provide a more comprehensive basis for coordinating market demand with procurement and production activities. Rather than functioning solely as a promotional channel, the online shop can become a source of operational information that supports managerial decisions. This linkage strengthens the downstream dimension of SCM by connecting customer demand with the internal flow of materials, transactions, and financial information.



Figure 9. Promotional Poster

The word-of-mouth component was incorporated to strengthen the dissemination of product information through existing customers and their interpersonal networks. Customer recommendations can complement formal promotional activities because potential buyers may receive product information through personal experiences and recommendations rather than solely through company-generated advertisements. The mechanism becomes particularly relevant when combined with social media because customer responses, recommendations, comments, and shared content can increase the visibility of products beyond the company's immediate audience. Digital marketing literature identifies social media as an important instrument for MSMEs because it facilitates communication with consumers and provides opportunities to expand market exposure through interactive forms of promotion (Ariyati et al., 2024). Customer responses can also provide qualitative information concerning product quality, price, service, and delivery, which can be considered when evaluating the alignment between business operations and market expectations. This feedback has potential value for SCM because customer perceptions can indicate whether procurement, production, and distribution activities are producing outcomes that correspond to market requirements. The incorporation of customer-generated information therefore broadens the information base available for subsequent business-process evaluation.

The promotional poster developed in this research provides a standardized visual communication instrument for supporting product promotion across digital channels. The poster is designed to present essential product information in a concise and recognizable format, allowing the company to distribute promotional content through social media and other relevant digital platforms. Standardized promotional content can support consistency in product communication while reducing the need to develop substantially different promotional materials for each digital channel. The use of a structured digital communication format is also compatible with the broader development of digital platforms that seek to improve the accessibility and usability of business information (Gunawan et al., 2023). In the context of Konveksi Puji 25, the poster functions as an information interface connecting the company's products with prospective customers and directing market attention toward available purchasing channels. Its role is therefore not limited to visual promotion because it forms part of the information flow connecting the company with the downstream market. The integration of promotional content with social media and online shop activities provides a practical mechanism for extending the company's business process from internal operations toward direct customer interaction.

The proposed marketing strategy contributes to the integrated SCM framework by connecting market-facing activities with the internal information flows established through supplier selection, inventory management, sales processing, and financial reporting. Social media and online shop channels provide opportunities to increase market accessibility, while transactions generated through these channels can produce information relevant to sales and demand management. This relationship is important because supply chain performance depends not only on upstream procurement efficiency but also on the organization's capacity to respond to downstream demand through coordinated information flows. Information sharing has been identified as an important mechanism for improving productivity in supply chain implementation because relevant information enables business activities to be coordinated more effectively (Sugito & Kusri, 2023). The integration of digital marketing with the proposed financial information system can also provide a more continuous flow from customer transactions toward financial records. Such integration supports the broader objective of improving data quality because information generated from marketing and sales activities can be incorporated into structured transaction records rather than maintained separately. The marketing component consequently complements the AHP supplier-selection mechanism and VBA financial reporting system by establishing a downstream information channel within the overall business-process architecture.

CONCLUSION

The application of Supply Chain Management (SCM) concepts at Konveksi Puji 25 demonstrates that supplier selection, operational data management, and financial recording require an integrated approach to improve business-process efficiency. The implementation of the Analytical Hierarchy Process (AHP) provides a systematic decision-making mechanism based on quality, delivery, price, and warranty and customer service criteria, with Supplier 2 obtaining the highest priority of 52.7%, compared with 47.3% for Supplier 1. This result indicates that the AHP approach can provide a

more structured basis for supplier selection by translating managerial considerations into measurable priorities. The development of the VBA-based financial reporting system integrates transaction recording, inventory management, accounts payable and receivable, journals, ledgers, and financial statements within a structured information environment. The System Design and Engineering approach, supported by the Context Diagram, Data Flow Diagram (DFD), and Conceptual Design, clarifies relationships among business processes and establishes a more systematic flow of operational and financial data. The integration of SCM, AHP, system design, and VBA supports more efficient business processes, reduces dependence on repetitive manual activities, and improves the organization and consistency of financial information. The findings indicate that an integrated information-oriented approach can support more effective managerial decision-making at Konveksi Puji 25 by connecting procurement, operational activities, sales, and financial reporting within a coherent business-process structure.

From a practical perspective, the proposed system provides Konveksi Puji 25 with a structured mechanism for managing supplier decisions and transforming operational transactions into financial information that can be accessed and processed more efficiently. The integration of procurement, inventory, sales, and financial records strengthens data continuity because information generated from operational activities can be utilized in subsequent accounting processes. The digital marketing component through social media, online shops, word of mouth, and promotional materials further extends the business process toward customers and provides an additional channel for generating market information. The study also demonstrates that relatively accessible technologies such as Microsoft Excel and VBA can be utilized to support digitalization in small and medium-sized businesses without requiring immediate adoption of complex enterprise systems. However, the implementation remains limited by its dependence on a VBA-based Excel environment, which has not yet been integrated with enterprise resource planning (ERP), cloud-based databases, real-time supply chain platforms, or more advanced automation technologies. Future development can focus on expanding the system toward centralized databases, web-based or cloud-based applications, real-time inventory monitoring, automated supplier evaluation, and integration with digital sales platforms. Such development would provide opportunities for further research to evaluate the proposed approach using longitudinal performance measurements and broader quantitative indicators of process efficiency, data accuracy, reporting speed, and supply chain performance.

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