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DEVELOPMENT OF AN INTERGRATED COSTING WORKSHEET THORUGH COMPARATIVE ANALYSIS OF FULL COSTING, DIFFERENTIAL COSTING AND ACTIVITY-BASED COSTING IN A JOB ORDER COSTING ENVIRONMENT

Darel Sutrioga[1], Rima Dwijayanty[2], Hetti Herawati[3]
[123]Sangga Buana YPKP University
Email: darelsutrioga@gmail.com[1], rima.dwijayanty@usbypkp.ac.id[2], hetti.herawati@usbypkp.ac.id[3]
Alamat: Jl. PH.H. Mustofa No.68, Cikutra, Kec. Cibeunying Kidul, Kota Bandung, Jawa Barat 40124
Koresprodensi Penulis: darelsutrioga@gmail

Abstrak

Usaha Mikro, Kecil, dan Menengah (UMKM) memiliki peran penting dalam perekonomian, namun banyak UMKM manufaktur masih menghadapi kendala dalam menentukan harga pokok produksi secara akurat serta menyusun laporan keuangan sesuai Standar Akuntansi Keuangan Entitas Mikro, Kecil, dan Menengah (SAK EMKM). Penelitian ini bertujuan membandingkan penerapan metode *Full Costing*, *Differential Costing*, dan *Activity-Based Costing (ABC)* dalam sistem *Job Order Costing* serta mengembangkan *Integrated Costing Worksheet (ICW)* yang mendukung pengelolaan biaya produksi dan penyusunan laporan keuangan berbasis SAK EMKM. Penelitian menggunakan pendekatan kuantitatif deskriptif dengan desain studi kasus komparatif berdasarkan data biaya produksi yang diperoleh melalui observasi, wawancara semi-terstruktur, dan dokumen pendukung pada CV Sefri Furniture sebagai UMKM manufaktur furnitur di Indonesia. Hasil penelitian menunjukkan bahwa perbedaan prinsip alokasi biaya menghasilkan harga pokok produksi dan profitabilitas yang berbeda meskipun menggunakan data produksi yang sama. Di antara ketiga metode tersebut, *Full Costing* memberikan keseimbangan terbaik antara alokasi biaya yang komprehensif, kemudahan penerapan, dan kesesuaian dengan SAK EMKM. Berdasarkan temuan tersebut, penelitian ini mengembangkan *Integrated Costing Worksheet* yang

mengintegrasikan penyusunan *Job Cost Sheet*, analisis komparatif metode biaya, estimasi profitabilitas, dan pelaporan keuangan ke dalam satu sistem spreadsheet sebagai alat pendukung pengambilan keputusan. Kerangka kerja yang diusulkan memperluas analisis komparatif biaya menjadi alat operasional yang meningkatkan konsistensi perhitungan biaya dan mendukung pelaporan keuangan pada UMKM manufaktur.

Kata Kunci: *Integrated Costing Worksheet*, *Full Costing*; *Activity-Based Costing*, *Differential Costing*, *Job Order Costing*, SAK EMKM

Abstract

Micro, Small, and Medium Enterprises (MSMEs) play a vital role in economic development; however, many manufacturing MSMEs continue to encounter difficulties in accurately determining production costs and preparing financial statements in accordance with the Financial Accounting Standards for Micro, Small, and Medium Entities (SAK EMKM). This study aims to compare the implementation of Full Costing, Differential Costing, and Activity-Based Costing (ABC) within a Job Order Costing system and to develop an Integrated Costing Worksheet (ICW) that supports production cost management and SAK EMKM-based financial reporting. A descriptive quantitative approach with a comparative case study design was employed using production cost data collected through observations, semi-structured interviews, and supporting company documents at CV Sefri Furniture, an Indonesian furniture manufacturing MSME. The findings demonstrate that different cost allocation principles produce different production costs and profitability despite using identical production data. Among the three methods, Full Costing provides the most appropriate balance between comprehensive cost allocation, practical implementation, and compliance with SAK EMKM. Based on these findings, this study develops an Integrated Costing Worksheet that integrates Job Cost Sheet preparation, comparative costing analysis, profitability estimation, and financial reporting into a single spreadsheet-based decision-support system. The proposed framework extends comparative costing analysis into an operational management tool that supports managerial decision-making, improves costing consistency, and facilitates financial reporting for manufacturing MSMEs.

Keywords: Integrated Costing Worksheet; Full Costing; Activity-Based Costing; Differential Costing; Job Order Costing; SAK EMKM

INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) constitute one of the primary pillars of Indonesia's economy by generating employment opportunities, stimulating regional economic development, and strengthening national economic resilience (Sumarsono & Muflihah, 2020). Along with continuous economic growth, increasing business competition has intensified the need for manufacturing enterprises to improve operational efficiency and manage production costs more effectively in order to maintain competitiveness and ensure long-term sustainability (Cateia & Savard, 2026). According to the Ministry of Finance of the Republic of Indonesia, Indonesia's economic growth is projected to reach 5.1–5.5%, supported by approximately 64.2 million MSMEs operating nationwide in 2024 (Ministry of Finance of the Republic of Indonesia, 2025). These conditions highlight the increasingly important role of MSMEs not only in supporting economic development but also in strengthening managerial capabilities and financial governance.

Despite their substantial contribution to the national economy, many MSMEs continue to encounter challenges in financial management, particularly in preparing reliable financial statements and generating accurate cost information. Previous studies indicate that financial literacy alone does not necessarily improve business performance unless it is supported by effective financial management practices, including systematic bookkeeping, budgeting, and production cost control(Dwijayanty et al., 2025). Furthermore, accurate cost information plays a crucial role in pricing decisions, resource allocation, profitability evaluation, and strategic managerial decision-making (Dani, 2026). Cost accounting therefore functions not merely as a recording mechanism but also as a managerial tool that supports planning, operational efficiency, and business performance improvement (Mafthunabonu & Samiddinovna, 2026). Consequently, financial reporting should serve not only as an administrative requirement but also as a strategic instrument for supporting sustainable business management (Abdullah & Jammaludin, 2025).

For manufacturing MSMEs, the quality of financial reporting is closely associated with the accuracy of production cost determination. Product costing directly affects selling price determination, inventory valuation, profitability measurement, and financial statement preparation. Inaccurate cost allocation may result in undercosting or overcosting, leading to distorted financial information and inappropriate managerial decisions (Flores et al., 2024). According to Mulyadi (2015), production costs consist of direct material costs, direct labor costs, and manufacturing overhead costs, all of which should be appropriately allocated to produce

reliable product cost information. In Indonesia, financial statements prepared by MSMEs are guided by the Financial Accounting Standards for Micro, Small, and Medium Entities (SAK EMKM), which emphasize the presentation of reliable financial information to support economic decision-making (Finacial Accouuting Standard Board Indonesia, 2016). Nevertheless, many manufacturing MSMEs continue to estimate production costs using simplified approaches that primarily consider direct materials and direct labor while inadequately allocating manufacturing overhead costs, thereby reducing the reliability of financial information used for managerial decision-making (Angelita et al., 2026).

Manufacturing enterprises operating under customized production systems generally employ **Job Order Costing**, in which production costs are accumulated separately for each customer order(Garrison et al., 2021). Within this production environment, several costing approaches may be applied, including **Full Costing**, **Differential Costing**, and **Activity-Based Costing (ABC)**. Since each method applies different principles for allocating production costs, particularly manufacturing overhead, the resulting product costs may vary considerably, thereby influencing selling price determination, profitability analysis, inventory valuation, and financial reporting (M. Datar & V. Rajan, 2020: Garrison et al., 2021).

Although previous studies have examined the implementation of Full Costing, Job Order Costing, Variable Costing, and Activity-Based Costing in manufacturing enterprises, most have focused on comparing only one or two costing methods or evaluating their effects on production costs, selling prices, or profitability (Fitriawati et al., 2026; Febriyanto et al., 2026; Ardianti et al., 2025). Furthermore, relatively few studies have integrated comparative production costing analysis with financial statement preparation based on **SAK EMKM**. More importantly, studies simultaneously comparing **Full Costing, Differential Costing, and Activity-Based Costing** within a **Job Order Costing** environment for customized furniture manufacturing MSMEs remain limited. This indicates the need for a more comprehensive investigation that not only compares alternative costing methods but also evaluates their implications for financial reporting and managerial decision-making.

To address these research gaps, this study makes two principal contributions. First, it provides a comprehensive comparative analysis of **Full Costing, Differential Costing, and Activity-Based Costing** within a **Job Order Costing** system implemented at **CV Sefri Furniture**, an Indonesian furniture manufacturing MSME. Second, this study transforms comparative costing

analysis into an operational decision-support framework through the development of an **Integrated Costing Worksheet (ICW)**. The proposed worksheet integrates production cost calculation, comparative costing methods, profitability analysis, and income statement preparation into a single spreadsheet-based system that supports **SAK EMKM**-based financial reporting. Accordingly, this study contributes theoretically by extending the literature on production costing in manufacturing MSMEs and contributes practically by providing an implementable costing tool that supports more accurate financial reporting, pricing decisions, and production cost control.

Based on these considerations, this study aims to compare the implementation of **Full Costing, Differential Costing, and Activity-Based Costing** in determining production costs under a **Job Order Costing** system and to evaluate their implications for preparing **SAK EMKM**-based financial statements at **CV Sefri Furniture**.

RESEARCH METHOD

This study employed a **descriptive quantitative approach** using a **comparative case study** design to evaluate alternative product costing methods in a manufacturing Micro, Small, and Medium Enterprise (MSME). The descriptive approach was used to systematically describe the company's existing production costing practices, while the comparative approach evaluated differences among **Full Costing**, **Differential Costing**, and **Activity-Based Costing (ABC)** using a consistent analytical framework (Creswell & Creswell, 2022; Hantrais, 2009).

The research was conducted at **CV Sefri Furniture**, a furniture manufacturing MSME located in Tangerang, Indonesia, which operates under a **Job Order Costing** production system. Since each customer order has different product specifications and production requirements, the company provides an appropriate setting for comparing alternative product costing methods within a customized manufacturing environment (Garrison et al., 2021).

Primary data were collected through **direct observations** and **semi-structured interviews** with the business owner, while secondary data consisted of available production cost information and supporting company documents. Data collection aimed to identify production cost components, document the company's existing costing practices, and obtain sufficient evidence for comparative production cost analysis.

The analysis began with identifying production cost components because **CV Sefri Furniture** did not maintain a formal production costing system or complete accounting records.

Although the initial research design planned to analyze several customized furniture products, field investigations revealed that complete and verifiable production cost data were only available for the **two-door sliding wardrobe**. Therefore, this product was selected as the unit of analysis to ensure data consistency and analytical reliability throughout the comparative evaluation.

The identified production cost components were subsequently organized into **manual Job Cost Sheets**, which served as the analytical basis for calculating production costs using the **Full Costing, Differential Costing, and Activity-Based Costing** methods (M. Datar & V. Rajan, 2020; Garrison et al., 2021). The resulting production costs were then comparatively analyzed and used to prepare financial statements in accordance with the **Financial Accounting Standards for Micro, Small, and Medium Entities (SAK EMKM)**. Finally, the three costing methods were evaluated to determine which approach provides the most relevant and reliable financial information for customized furniture manufacturing. This analytical sequence ensured that each costing method was evaluated using identical production cost data and production conditions, thereby providing a consistent basis for comparing their implications for production cost determination and SAK EMKM-based financial reporting.

As the practical contribution of this study, an **Integrated Costing Worksheet (ICW)** was developed after the analytical process had been completed. The ICW was created by adapting the validated **Job Cost Sheet** framework, including production cost identification, costing calculations, comparative analysis, and SAK EMKM-based financial reporting, into a single integrated worksheet specifically designed for **CV Sefri Furniture**. Rather than serving as a generic spreadsheet template, the ICW represents the practical implementation of the analytical framework developed and validated throughout this study. Although designed for a single case company, the analytical framework underlying the ICW may provide a practical reference for other manufacturing MSMEs operating under similar **Job Order Costing** production systems.

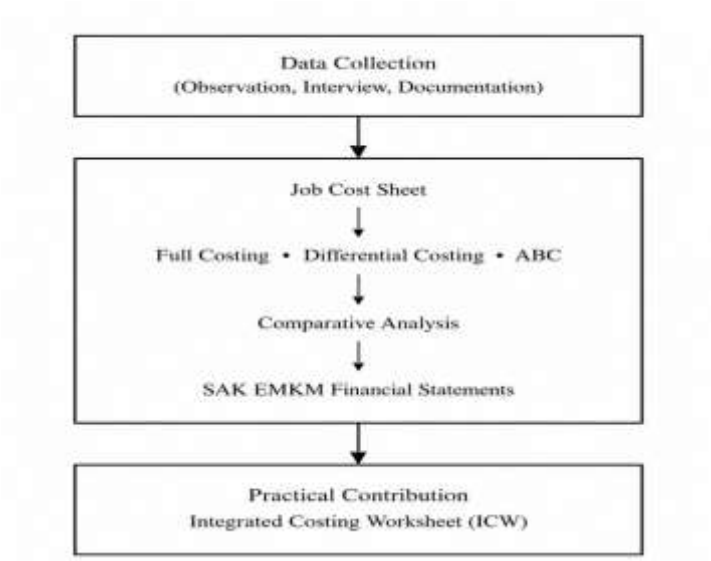


Figure 1. Research Procedure for Comparative Costing Analysis and Development of the Integrated Costing Worksheet (ICW).

1. Research Context

CV Sefri Furniture is a manufacturing Micro, Small, and Medium Enterprise (MSME) located in Tangerang, Indonesia, specializing in customized wooden furniture. The company operates under a **Job Order Costing** production system, where each product is manufactured according to specific customer requirements. As a result, production costs vary across orders because of differences in material consumption, labor requirements, and manufacturing activities.

Field observations revealed that the company did not maintain a formal production costing system or comprehensive accounting records. Production costs were primarily estimated based on the owner's experience rather than systematically documented. Consequently, detailed and verifiable production cost information was available only for the **two-door sliding wardrobe**, which was selected as the unit of analysis in this study. This condition reflects a common challenge faced by many manufacturing MSMEs, where limited accounting practices constrain the accuracy of product costing and financial reporting.

The identified production cost information was subsequently organized into manual **Job Cost Sheets**, providing the analytical foundation for applying the **Full Costing**, **Differential Costing**, and **Activity-Based Costing** methods. The resulting analyses were then used to prepare financial statements in accordance with **SAK EMKM** and to develop an **Integrated Costing Worksheet (ICW)** as the practical contribution of this research.

2. Identification of Production Cost Components

Production cost identification was conducted through direct observation, semi-structured interviews with the business owner, and examination of available supporting documents at CV Sefri Furniture. The field investigation revealed that the company had not implemented a formal production costing system or maintained detailed accounting records. Instead, production costs were estimated based primarily on the owner's practical experience accumulated through daily manufacturing operations.

Field observations further indicated that the company applies a **semi-finished inventory** production strategy. The main wardrobe structure is continuously manufactured and stored as semi-finished inventory before customer orders are received. Once an order is confirmed, the production process proceeds with finishing activities, including surface treatment, painting, installation of accessories, and customization of decorative patterns according to customer specifications. This production approach enables the company to reduce delivery time while maintaining flexibility in responding to customized orders.

Based on the field investigation, complete and verifiable production cost information was obtained only for the **two-door sliding wardrobe**, which therefore became the analytical unit of this study. The identified production costs were subsequently classified into **direct materials, direct labor, and manufacturing overhead** following the Job Order Costing framework (Garrison et al., 2021).

The direct material category consisted primarily of plywood with different specifications, while direct labor included production and finishing workers. Manufacturing overhead comprised semi-finished production costs, finishing materials, production utilities, delivery expenses, and various supporting accessories required to complete the customized wardrobe. In addition, optional decorative patterns requested by customers generated additional production costs depending on the selected design. The complete classification of production cost components is presented in **Table 1**.

Table 1. Production Cost Components of Two-Door Sliding Wardrobe



(a) Research observation with the business owner (b) Workshop and production facilities (c) Semi-finished wardrobe production (d) Customized furniture during manufacturing

Cost Category	Production Cost Components
Direct Materials	3 mm Meranti plywood, 3 mm white plywood, 9 mm plywood
Direct Labor	Production labor, finishing labor
Manufacturing Overhead	Semi-finished production cost, finishing materials, accessories, electricity, delivery cost
Optional Customization	Floral pattern (1 glass), Floral pattern (2 glass), Button pattern, Standard line pattern

Figure 2. Production Environment and Manufacturing Activities at CV Sefri Furniture

Note; (a) Research observation with the business owner, (b) Workshop and production facilities; (c) Semi-finished wardrobe production; (d) Customized furniture during manufacturing.

3. Product Cost Calculation

Based on the production cost components identified in the previous stage, production costs were calculated using three different costing approaches, namely **Full Costing**, **Differential Costing**, and **Activity-Based Costing (ABC)**. Each method applies different principles for allocating production costs, particularly manufacturing overhead, resulting in different production cost values. The calculations were performed using the validated Job Cost Sheet developed from the field investigation, ensuring that all costing methods were based on identical production data. The resulting production costs provide the basis for the comparative analysis and financial statement preparation presented in the following section.

1. Full Costing

The Full Costing method allocates all production costs, including direct materials, direct labor, and manufacturing overhead, to the finished product. Using the production cost data collected from CV Sefri Furniture, the calculation resulted in a total production cost of **IDR 713,500** for one unit of a two-door sliding wardrobe.

Table 2. Production Cost Calculation Using the Full Costing Method

Cost Component	Amount (IDR)
Direct Materials	213,500
Direct Labor	200,000
Manufacturing Overhead	300,000
Total Production Cost	**713,500**

Source: Processed by the authors based on research data (2026).

The Full Costing method provides a comprehensive representation of production costs by allocating all manufacturing costs to the product, making it suitable for financial reporting purposes under conventional cost accounting principles.

2. Differential Costing

Differential Costing was applied to evaluate the additional production cost associated with customer customization. Unlike Full Costing, this approach considers only relevant costs that change as a consequence of a specific managerial decision. In this study, the decision involved accepting an additional decorative pattern requested by the customer.

Table 3. Production Alternatives Evaluated

Alternative	Description
A	Standard two-door sliding wardrobe without decorative pattern
B	Two-door sliding wardrobe with floral decorative pattern

Table 4. Differential Cost Analysis

Cost Component	Amount (IDR)
Production Cost (Alternative A)	713,500
Additional Decorative Pattern	15,000
Production Cost (Alternative B)	**728,500**

Source: Processed by the authors based on research data (2026).

The analysis indicates that only the finishing stage generated additional relevant costs, while direct materials, production labor, and the existing manufacturing overhead remained unchanged. Consequently, accepting customized orders increased production cost by **IDR 15,000** per unit, demonstrating that Differential Costing serves as an effective decision-support tool for evaluating customized customer orders.

Activity-Based Costing (ABC) allocates production costs according to the activities that consume organizational resources. Compared with the traditional Full Costing approach, ABC

separates manufacturing overhead into multiple activity cost pools, thereby providing a more accurate representation of resource consumption throughout the production process.

Table 5. Production Cost Calculation Using the Activity-Based Costing Method

Cost Pool	Amount (IDR)
Direct Materials	213,500
Supporting Materials	150,000
Production Labor	100,000
Finishing Labor	100,000
Finishing Overhead	150,000
Distribution	50,000
Total Production Cost	**763,500**

Source: Processed by the authors based on research data (2026).

The ABC method generated the highest production cost among the three approaches because it allocates costs according to multiple production activities rather than using a conventional overhead allocation approach. Consequently, the resulting production cost is expected to better reflect the actual consumption of resources during furniture manufacturing.

4. Comparative Analysis

Following the calculation of product costs using the Full Costing, Differential Costing, and Activity-Based Costing (ABC) methods, a comparative analysis was conducted to evaluate differences in production cost calculation, profitability, and the suitability of each costing method for financial reporting under the Financial Accounting Standards for Micro, Small, and Medium Entities (SAK EMKM). The comparison was performed using identical production cost data obtained from the two-door sliding wardrobe, ensuring that any observed differences resulted solely from the costing principles applied by each method rather than differences in production characteristics.

To ensure analytical consistency, the selling price was standardized across all costing methods. Based on interviews with the owner of CV Sefri Furniture, the selling price of a two-door sliding wardrobe generally ranges from **Rp920,000 to Rp1,020,000** per unit. For comparative analysis and financial statement simulation, this study adopted the average selling price of **Rp970,000** per unit. This approach ensured that any differences in reported profitability were attributable solely to differences in product cost calculations.

Table 6. Comparison of Product Cost and Profit

Costing Method	Product Cost (Rp)	Profit (Rp)
Full Costing	713,500	256,500
Differential Costing	728,500	241,500
Activity-Based Costing	763,500	206,500

Source: Processed by the authors based on research data (2026).

As presented in Table 6, Full Costing generated the lowest product cost (**Rp713,500**) and consequently the highest profit (**Rp256,500**) per unit. Differential Costing produced a slightly higher product cost (**Rp728,500**) because it incorporated relevant costs associated with customer-requested decorative motifs. In contrast, Activity-Based Costing generated the highest product cost (**Rp763,500**) and the lowest profit (**Rp206,500**) due to its detailed allocation of manufacturing overhead based on production activities.

These findings demonstrate that the selection of a costing method directly influences both product cost and reported profitability. Although identical production data and selling prices were used throughout the analysis, differences in cost allocation principles resulted in different financial outcomes. Therefore, selecting an appropriate costing method is not merely an accounting procedure but also a managerial decision that influences pricing strategies, cost control, and financial reporting.

To further evaluate the practical applicability of each costing method, the calculation results were assessed according to the qualitative characteristics required by SAK EMKM.

Table 7. Comparative Evaluation of Product Costing Methods Based on SAK EMKM Qualitative Characteristic

Evaluation Criteria	Full Costing	Differential Costing	Activity-Based Costing
Relevance	✓	△	✓
Reliability	✓	△	✓
Comparability	✓	△	✓
Ease of Implementation	✓	✓	△
Suitability for SAK EMKM	✓	△	△

Notes: ✓ = Appropriate; △ = Moderately Appropriate.

Source: Processed by the authors based on research data (2026).

The evaluation indicates that Full Costing provides the most balanced performance across all assessment criteria. The method incorporates all manufacturing cost components into product cost, produces consistent financial information, and can be implemented without requiring sophisticated accounting procedures. These characteristics make Full Costing particularly suitable for manufacturing MSMEs that operate with limited accounting resources, such as CV Sefri Furniture.

Differential Costing proved useful primarily for evaluating special customer orders because it emphasizes relevant costs arising from specific production alternatives. However, since it excludes manufacturing costs that remain unchanged across alternatives, the method is less appropriate for preparing complete financial statements in accordance with SAK EMKM.

Activity-Based Costing provides more detailed cost information by tracing manufacturing overhead to production activities. Nevertheless, its implementation requires systematic identification of activities, cost drivers, and continuous accounting records. Considering the current operational conditions of CV Sefri Furniture, where production costing is still performed manually without a formal accounting information system, implementing Activity-Based Costing would require considerably greater administrative effort than the other costing methods.

Overall, the comparative analysis demonstrates that each costing method serves a different managerial purpose. Differential Costing is particularly useful for evaluating special customer orders and short-term operational decisions, whereas Activity-Based Costing provides more detailed information for cost management and operational efficiency. However, considering both the operational characteristics of CV Sefri Furniture and the financial reporting requirements of SAK EMKM, **Full Costing represents the most appropriate costing method** because it produces comprehensive production cost information while remaining practical, reliable, and straightforward to implement.

The findings of this study are consistent with those reported by **Fitriawati et al., (2026)**. who concluded that the Full Costing method allocates all manufacturing cost components to products, thereby providing more comprehensive cost information to support product pricing and profit evaluation. The present study confirms these findings in the context of a manufacturing MSME operating under a Job Order Costing production system. More importantly, unlike previous studies that primarily focused on comparing alternative costing methods, this study demonstrates how the analytical results obtained from Full Costing can be translated into an **Integrated Costing**

Worksheet (ICW) that supports production cost calculation, managerial decision-making, and the preparation of financial statements in accordance with **SAK EMKM**. Therefore, this study contributes not only by identifying the most appropriate costing method for CV Sefri Furniture but also by providing a practical operational framework that can support production cost management in manufacturing MSMEs with similar operational characteristics.

5. Figure ICW

This study not only compares three product costing methods—**Full Costing, Differential Costing, and Activity-Based Costing (ABC)**—but also develops a practical decision-support tool in the form of an **Integrated Costing Worksheet (ICW)**. The worksheet was designed to assist **CV Sefri Furniture** in calculating production costs, comparing alternative costing methods, estimating product profitability, and supporting the preparation of financial information in accordance with **SAK EMKM** within a single integrated spreadsheet environment.

The selling price used in the worksheet was determined based on interviews with the owner of CV Sefri Furniture. The selling price of the two-door sliding wardrobe ranges from **IDR 920,000 to IDR 1,020,000** per unit. For comparative analysis and financial simulation purposes, this study adopts the average selling price of **IDR 970,000** per unit as the reference value throughout the worksheet. This standardized selling price allows differences in production costs and profitability to be attributed solely to the costing method employed rather than to variations in selling prices.The ICW was developed based on the production workflow observed at CV Sefri Furniture. Instead of requiring separate calculations for each costing method, the worksheet integrates all production data into a unified spreadsheet system where every worksheet is interconnected through automatic formulas. Consequently, users only need to enter production cost information once, while all subsequent calculations are generated automatically across the costing, profitability, and reporting modules.

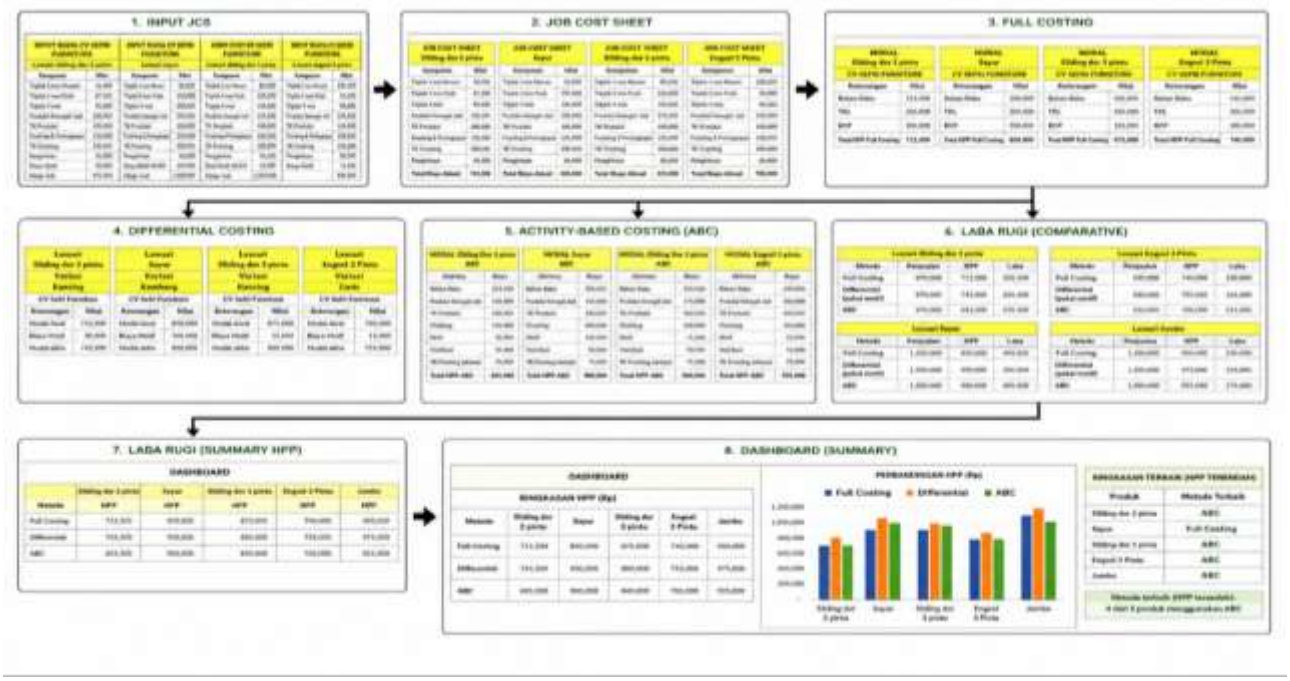


Figure 4. Architecture of the Integrated Costing Worksheet (ICW) integrating production cost input, comparative costing methods (Full Costing, Differential Costing, and Activity-Based Costing), profit analysis, and dashboard visualization for CV Sefri Furniture.

Figure 4 illustrates the overall architecture of the Integrated Costing Worksheet (ICW) developed in this study. The worksheet is organized into several interconnected modules that automatically transform production cost data into costing information, profitability analysis, and managerial summaries. This integrated architecture eliminates repetitive manual calculations while maintaining data consistency throughout the entire costing process.

The first module, **Input JCS**, functions as the primary interface for entering production cost information, including raw materials, semi-finished production costs, direct labor, finishing expenses, transportation, motif costs, and product selling prices for each furniture model. These input data automatically populate the **Job Cost Sheet**, where actual production costs are summarized for each product.

The next stage consists of three independent costing modules. The **Full Costing** worksheet allocates all manufacturing costs into product costs in accordance with absorption costing principles. The **Differential Costing** worksheet adjusts production costs by incorporating additional motif-related costs arising from customer-specific requests. Meanwhile, the **Activity-Based Costing (ABC)** worksheet allocates overhead costs based on production activities such as

material preparation, production, finishing, motif processing, and distribution. Since all three modules utilize identical production data, differences in production costs are attributable solely to differences in cost allocation methodologies.

The calculated production costs are subsequently transferred to the **Profit Analysis** worksheet, where each costing method is evaluated using the corresponding selling price to estimate product profitability. Finally, all analytical results are summarized in the **Dashboard** worksheet, providing a comparative overview of production costs among costing methods for each furniture product. This dashboard enables business owners to identify cost differences more efficiently and supports pricing as well as production-related decision making.

The proposed ICW extends the contribution of this study beyond comparative cost analysis by providing a practical spreadsheet-based decision-support system that can be directly implemented by furniture MSMEs. By integrating production costing, profitability analysis, comparative reporting, and dashboard visualization into a single worksheet, the system minimizes manual calculations, reduces computational errors, improves data consistency, and simplifies financial reporting practices in accordance with **SAK EMKM**.

An additional finding from the field observations indicates that production costing practices in MSMEs are often shaped by managerial experience and operational strategies rather than strict accounting principles. During the interviews, the owner of CV Sefri Furniture explained that transportation charges were not treated solely as distribution costs but also formed part of the company's profit strategy. Customers were charged **IDR 50,000** per wardrobe for delivery, while a rented vehicle costing **IDR 200,000** could transport up to six wardrobes in a single trip. Consequently, the difference between the total delivery charges collected and the actual transportation cost became an additional source of profit for the business. From an accounting perspective, distribution costs are generally recognized as operating expenses rather than elements of product profit. However, this finding demonstrates that managerial practices in MSMEs frequently reflect practical business considerations and local operational conditions. Therefore, production costing systems intended for MSMEs should not only comply with accounting standards but also remain sufficiently flexible to accommodate the operational characteristics and decision-making practices of individual enterprises.

Overall, the Integrated Costing Worksheet demonstrates that comparative costing analysis can be transformed into an operational management tool rather than remaining solely an academic

analytical framework. By integrating production cost calculation, comparative costing methods, profitability analysis, and automated financial reporting into a single spreadsheet-based system, the ICW enhances the practical applicability of accounting information for MSMEs. More importantly, the worksheet was developed based on the actual operational characteristics observed at CV Sefri Furniture, demonstrating that practical costing systems should not only comply with accounting standards but also accommodate the managerial practices and business strategies commonly adopted by manufacturing MSMEs. Consequently, the ICW provides a practical and adaptable framework that supports production cost management, financial reporting in accordance with SAK EMKM, and informed managerial decision-making.

CONCLUSION

This study achieved its objective by comparing the implementation of **Full Costing, Differential Costing, and Activity-Based Costing (ABC)** for determining production costs in a customized furniture manufacturing MSME operating under a **Job Order Costing** system. The findings demonstrate that differences in cost allocation principles produce different production costs and profitability, even when identical production data are used. Among the three approaches, **Full Costing** provides the most appropriate balance between comprehensive cost allocation, practical implementation, and compliance with the qualitative characteristics of **SAK EMKM**, making it the most suitable costing method for supporting production cost calculation and financial reporting at **CV Sefri Furniture**.

Beyond identifying the most appropriate costing method, this study makes a practical contribution through the development of an **Integrated Costing Worksheet (ICW)**. Developed from field observations, interviews, and comparative costing analysis, the ICW integrates production cost input, Job Cost Sheet preparation, comparative costing calculations, profitability analysis, and SAK EMKM-based financial reporting into a single spreadsheet-based system. The proposed worksheet demonstrates how comparative costing analysis can be translated into an operational decision-support tool that simplifies production cost calculation, improves data consistency, reduces manual calculation errors, and supports managerial decision-making while remaining compatible with the operational characteristics of manufacturing MSMEs.

Despite its practical contribution, this study has several limitations that should be acknowledged. The proposed **Integrated Costing Worksheet (ICW)** was developed and

validated using data from a single manufacturing MSME operating under a **Job Order Costing** system; therefore, its applicability to other business sectors and production environments requires further investigation. Furthermore, the current version represents the **first operational prototype** of the proposed framework and does not yet incorporate broader business management functions such as inventory management, automated financial statement generation, real-time data integration, or artificial intelligence (AI)-assisted cost prediction.

Future research is therefore encouraged to further develop the ICW into a web-based decision-support system, expand its functional capabilities, and validate its implementation across various manufacturing and non-manufacturing MSMEs. Such developments are expected to enhance the scalability, adaptability, and practical contribution of the proposed framework toward the digital transformation of production cost management and financial reporting for MSMEs. Accordingly, the Integrated Costing Worksheet should be regarded as an initial operational framework that provides a foundation for continuous technological development and broader implementation across diverse MSME sectors rather than as a finalized costing system.

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