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Analysis Of Production Cost Calculation Using The Job Order Costing Method And Simulation Of The Process Costing Method At Pt Matra Digital Group

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Abstract

The garment industry requires accurate cost of goods sold (COGS) calculations to support cost control and evaluate cost allocation methods. This study aims to analyze the cost of goods sold using the job order costing method and compare it with the simulation of the process costing method at PT Matra Digital Group. The study uses a comparative descriptive method with a quantitative approach. The population includes all company production cost data, while the sample includes data on direct raw materials, direct labor, factory overhead, production quantities, and COGS calculation documents for the January–October 2025 period. The research instruments are internal company documents, with documentation techniques and comparative descriptive analysis. The results show a total COGS of Rp23,210,453 for 1,404 units, with an average of Rp16,531.66 per unit. Process simulation produces Rp10,232.66–Rp26,451.51 per unit and differences in Vinyl Stickers and Flexi Banners. In conclusion, the job order method is more appropriate to the characteristics of order-based production, while the process method can be used as a comparison.

Keywords:Cost Accounting, Cost of Goods Sold, Manufacturing Industry, Job Order Costing Method, Process Costing Method

INTRODUCTION

Competition in the Indonesian garment industry is driving companies to improve production efficiency, including through accurate cost of goods manufactured calculations. These calculations form the basis for setting selling prices, controlling costs, and making management decisions. Suryani & Putiharjo (2023) state that the job order costing method provides more detailed production cost information for each order. Hendarmin et al. (2023) also explain that the quality of accounting information is

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influenced by an understanding of accounting and the use of adequate accounting information systems.

The development of the apparel industry in South Sumatra demonstrates significant production activity. According to the Central Statistics Agency of South Sumatra Province (2025), there were 6,501 micro and small apparel industries in 2023, while Palembang City had 684 units with 1,742 workers in 2025. Furthermore, raw material use accounted for 94.82% of input costs. This situation demonstrates the importance of managing production costs and accurately calculating the cost of goods manufactured.

Problems in calculating the cost of goods manufactured relate to the accuracy of recording and allocating the costs of raw materials, direct labor, and factory overhead. Misallocation of costs can lead to undercosting or overcosting, which impacts the determination of the selling price. According to PSAK 14 on Inventories, inventory costs include purchase costs, conversion costs, and other costs until the inventory reaches its current condition and location. Therefore, each element of production costs must be identified and allocated appropriately.

PT Matra Digital Group is a garment manufacturing company in Palembang that produces clothing based on customer orders or job orders. Differences in product types, production quantities, and raw material requirements for each order require a calculation method that reflects the cost of each order. In practice, companies still face challenges in recording and allocating production costs. Suryani & Putiharjo (2023), Agisna et al. (2024), and Sari & Fauziah (2024) demonstrate the importance of implementing appropriate cost calculation methods to generate accurate production cost information.

PT Matra Digital Group is essentially suited to using the job order costing method because it implements order-based production. However, several production stages are repeated, allowing for simulation of the process costing method for comparison. Sofyan & Kurniasih (2025) stated that comparing the job order costing and process costing methods can provide an overview of the production cost structure, while Marsinah et al. (2025) explained that a cost calculation method that matches production characteristics can improve the accuracy of production cost information. Research combining these two approaches in order-based garment manufacturing companies is still relatively limited.

This study aims to analyze the calculation of production costs using the job order costing method and conduct a simulation of the process costing method at PT Matra Digital Group. This research is important to determine the differences in the calculation results of the two methods and their suitability to the company's production characteristics. The novelty of this study lies in combining the analysis of the job order costing method with the simulation of the process costing method in a garment company

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that produces based on orders as evaluation material in determining the appropriate production cost calculation method.

RESEARCH METHODS

This study uses a comparative descriptive method with a quantitative approach. It describes the calculation of production costs at PT Matra Digital Group and compares the job-order costing method with a simulation of the process costing method based on data on direct materials, direct labor, factory overhead, and production volume.

The research instrument consisted of internal company documents covering data on direct material costs, direct labor, factory overhead, production volume, and cost of goods manufactured calculations. Data were collected through documentation and analyzed descriptively and comparatively. The components of cost of goods manufactured refer to the costs of direct materials, direct labor, and factory overhead, as used in Mulyadi (2014) and Isra et al. (2025).

The research population is all production cost data of PT Matra Digital Group, while the sample consists of data on direct raw material costs, direct labor, factory overhead, production quantities, and production cost calculation documents used for the job order costing method and process costing method simulation in 2026.

The research procedure was carried out by identifying production cost components, calculating the cost of goods manufactured using the job order costing method, simulating the process costing method using the same data, and comparing the results of the two methods. The results of the comparison were then analyzed based on the characteristics of PT Matra Digital Group's production process and used as a basis for drawing conclusions.

RESULTS AND DISCUSSION

Calculation of Cost of Goods Sold Using the Cost of Goods Sold Method Order

Table 1 Plastic Packing Inventory Card Using the Moving Average Method

Tanggal	Nama Bahan	Stok Awal	Pembelian	Pemakaian	Sisa Persediaan	Harga Beli	Harga Rata-rata	Nilai Pemakaian M
05 Jan 2025	Plastik Packing	10	7	4	13	Rp 20.000	Rp 20.000	Rp 80.000
11 Jan 2025	Plastik Packing	13	20	12	21	Rp 20.000	Rp 20.000	Rp 240.000
01 Jul 2025	Plastik Packing	29	17	10	36	Rp 20.000	Rp 20.000	Rp 200.000
13 Jul 2025	Plastik Packing	21	19	11	29	Rp 20.000	Rp 20.000	Rp 220.000
22 Sep 2025	Plastik Packing	36	14	8	42	Rp 20.000	Rp 20.000	Rp 160.000
04 Okt 2025	Plastik Packing	42	19	11	50	Rp 20.000	Rp 20.000	Rp 220.000
	Total Plastik Packing		**96**	**56**				**Rp 1.120.000**

Based on Table 2, the total plastic packaging purchases during the research period were 96 packs, with 56 packs used and 50 packs in ending inventory. The purchase price and Moving Average remained at Rp20,000 per pack. The total value of

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plastic packaging usage was Rp1,120,000, so the value of raw materials used in the production process was Rp1,120,000.

Table 2 Spunbond Fabric Raw Material Inventory Card using Moving Average Method

Tanggal	Nama Bahan	Stok Awal	Pembelian	Pemakaian	Sisa Persediaan	Harga Beli	Harga Rata-rata	Nilai Pemakaian MA
11 Jan 2025	Kain Spunbond	15	17	10	22	Rp 12.000	Rp 12.000	Rp 120.000
02 Feb 2025	Kain Spunbond	22	11	7	26	Rp 12.000	Rp 12.000	Rp 84.000
	Total Kain Spunbond		**28**	**17**				**Rp 204.000**

Based on Table 2, the use of 17 meters of spunbond fabric with a Moving Average price of IDR 12,000 per meter, so the value of the raw materials used is IDR 204,000.

Table 3 Raw Material Inventory Card for Combed Cotton Fabric Using the Moving Average Method

Tanggal	Nama Bahan	Stok Awal	Pembelian	Pemakaian	Sisa Persediaan	Harga Beli	Harga Rata-rata	Nilai Pemakaian MA
22 Mar 2025	Kain Cotton Combed	12	19	11	20	Rp 28.000	Rp 28.000	Rp 308.000
14 Agu 2025	Kain Cotton Combed	20	6	4	22	Rp 28.000	Rp 28.000	Rp 112.000
	Total Kain Cotton Combed		**25**	**15**				**Rp 420.000**

Based on Table 4, the use of 15 meters of combed cotton fabric with a Moving Average price of IDR 28,000 per meter, so the value of the raw materials used is IDR 420,000.

Table 4 Printer Ink Raw Material Inventory Card Moving Average Method

Tanggal	Nama Bahan	Stok Awal	Pembelian	Pemakaian	Sisa Persediaan	Harga Beli	Harga Rata-rata	Nilai Pemakaian MA
15 Feb 2025	Tinta Printer	8	13	8	13	Rp 65.000	Rp 65.000	Rp 520.000
22 Feb 2025	Tinta Printer	13	12	7	18	Rp 65.000	Rp 65.000	Rp 455.000
14 Apr 2025	Tinta Printer	18	10	6	22	Rp 65.000	Rp 65.000	Rp 390.000
14 Mei 2025	Tinta Printer	22	7	4	25	Rp 65.000	Rp 65.000	Rp 260.000
19 Jun 2025	Tinta Printer	25	6	4	27	Rp 65.000	Rp 65.000	Rp 260.000
15 Okt 2025	Tinta Printer	27	19	11	35	Rp 65.000	Rp 65.000	Rp 715.000
	Total Tinta Printer		**67**	**40**				**Rp 2.600.000**

Based on Table 4, the printer ink usage is 40 bottles with a Moving Average price of IDR 65,000 per bottle, so the value of the raw materials used is IDR 2,600,000.

Table 5 Screen Printing Ink Raw Material Inventory Card Moving Average Method

Tanggal	Nama Bahan	Stok Awal	Pembelian	Pemakaian	Sisa Persediaan	Harga Beli	Harga Rata-rata	Nilai Pemakaian MA
19 Mar 2025	Tinta Sablon	5	20	12	13	Rp 45.000	Rp 45.000	Rp 540.000
18 Apr 2025	Tinta Sablon	13	16	10	19	Rp 45.000	Rp 45.000	Rp 450.000
18 Mei 2025	Tinta Sablon	19	9	5	23	Rp 45.000	Rp 45.000	Rp 225.000
05 Jun 2025	Tinta Sablon	23	17	10	30	Rp 45.000	Rp 45.000	Rp 450.000
05 Agu 2025	Tinta Sablon	34	7	4	37	Rp 45.000	Rp 45.000	Rp 180.000
06 Agu 2025	Tinta Sablon	30	9	5	34	Rp 45.000	Rp 45.000	Rp 225.000
25 Okt 2025	Tinta Sablon	37	6	4	39	Rp 45.000	Rp 45.000	Rp 180.000
	Total Tinta Sablon		**84**	**50**				**Rp 2.250.000**

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Based on Table 5, the use of screen printing ink is 50 bottles with a Moving Average price of IDR 45,000 per bottle, so the value of the raw materials used is IDR 2,250,000.

Table 6 Art Paper Raw Material Inventory Card Moving Average Method

Tanggal	Nama Bahan	Stok Awal	Pembeliar	Pemakaian	Sisa Persediaar	Harga Beli	Harga Rata-rata	Nilai Pemakaian M
02 Mar 2025	Kertas Art Paper 230gr	6	7	4	9	Rp 85.000	Rp 85.000	Rp 340.000
16 Jul 2025	Kertas Art Paper 230gr	9	14	8	15	Rp 85.000	Rp 85.000	Rp 680.000
08 Sep 2025	Kertas Art Paper 230gr	19	11	7	23	Rp 85.000	Rp 85.000	Rp 595.000
14 Sep 2025	Kertas Art Paper 230gr	15	9	5	19	Rp 85.000	Rp 85.000	Rp 425.000
	Total Kertas Art Paper 230gr		**41**	**24**				**Rp 2.040.000**

Based on Table 6, the use of 230 gram art paper is 24 reams with a Moving Average price of IDR 85,000 per ream, so the value of the raw materials used is IDR 2,040,000.

Table 7 Sewing Thread Raw Material Inventory Card Moving Average Method

Tanggal	Nama Bahan	Stok Awal	Pembeliar	Pemakaian	Sisa Persediaar	Harga Beli	Harga Rata-rata	Nilai Pemakaian M
17 Apr 2025	Benang Jahit	10	11	7	14	Rp 15.000	Rp 15.000	Rp 105.000
19 Mei 2025	Benang Jahit	14	6	4	16	Rp 15.000	Rp 15.000	Rp 60.000
03 Jun 2025	Benang Jahit	16	7	4	19	Rp 15.000	Rp 15.000	Rp 60.000
	Total Benang Jahit		**24**	**15**				**Rp 225.000**

Based on Table 7, the sewing thread used was 15 rolls with a Moving Average price of IDR 15,000 per roll, so the value of the raw materials used was IDR 225,000.

Direct Labor Cost Calculation

Table 8 Andi's Labor Costs

Date	Working hours	Calculation	Total Wages (Rp)
January 9, 2025	7 hours	7 x Rp. 15,000	105,000
February 7, 2025	8 hours	8 x Rp. 15,000	120,000
March 21, 2025	5 hours	5 x Rp. 15,000	75,000
April 23, 2025	5 hours	5 x Rp. 15,000	75,000
May 10, 2025	5 hours	5 x Rp. 15,000	75,000
June 10, 2025	6 hours	6 x Rp. 15,000	90,000
July 1, 2025	8 hours	8 x Rp. 15,000	120,000
August 7, 2025	7 hours	7 x Rp. 15,000	105,000
September 18, 2025	7 hours	7 x Rp. 15,000	105,000
October 6, 2025	7 hours	7 x Rp. 15,000	105,000
Andi's Total Wages			**Rp975,000**

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Table 8 shows that Andi's total labor costs during 2025 were Rp975,000. This cost was derived from the accumulation of 65 hours of work at a wage rate of Rp15,000 per hour. This high cost indicates that Andi actively participated in completing various production orders during the study period.

Table 9 Budi's Labor Costs

Date	Working hours	Calculation	Total Wages (Rp)
January 14, 2025	5 hours	5 x Rp. 15,000	75,000
February 14, 2025	5 hours	5 x Rp. 15,000	75,000
March 2, 2025	7 hours	7 x Rp. 15,000	105,000
April 2, 2025	5 hours	5 x Rp. 15,000	75,000
May 2, 2025	5 hours	5 x Rp. 15,000	75,000
June 18, 2025	7 hours	7 x Rp. 15,000	105,000
July 13, 2025	8 hours	8 x Rp. 15,000	120,000
August 2, 2025	7 hours	7 x Rp. 15,000	105,000
September 6, 2025	5 hours	5 x Rp. 15,000	75,000
October 12, 2025	7 hours	7 x Rp. 15,000	105,000
Budi's Total Wages			**Rp915,000**

Table 9 shows that Budi's total labor costs were Rp915,000. This figure represents 61 hours of work during the production process. This lower cost compared to other workers indicates that Budi spent relatively less time working.

Table 10 Labor Costs Sari

Date	Working hours	Calculation	Total Wages (Rp)
January 18, 2025	6 hours	6 x Rp. 15,000	90,000
February 15, 2025	7 hours	7 x Rp. 15,000	105,000
March 10, 2025	7 hours	7 x Rp. 15,000	105,000
April 17, 2025	5 hours	5 x Rp. 15,000	75,000
May 13, 2025	6 hours	6 x Rp. 15,000	90,000
June 23, 2025	7 hours	7 x Rp. 15,000	105,000
July 16, 2025	8 hours	8 x Rp. 15,000	120,000
August 7, 2025	5 hours	5 x Rp. 15,000	75,000
September 15, 2025	8 hours	8 x Rp. 15,000	120,000
October 1, 2025	8 hours	8 x Rp. 15,000	120,000
Sari's Total Wages			**Rp1,005,000**

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Table 10 shows that Sari's total labor costs were Rp1,005,000. This cost was the highest compared to other labor costs because Sari recorded the highest total working hours, at 67 hours. This indicates Sari's high involvement in production activities during the study period.

Table 11 Rina's Labor Costs

Date	Working hours	Calculation	Total Wages (Rp)
January 13, 2025	5 hours	5 x Rp. 15,000	75,000
February 25, 2025	8 hours	8 x Rp. 15,000	120,000
March 1, 2025	6 hours	6 x Rp. 15,000	90,000
April 16, 2025	8 hours	8 x Rp. 15,000	120,000
May 10, 2025	6 hours	6 x Rp. 15,000	90,000
June 24, 2025	6 hours	6 x Rp. 15,000	90,000
July 14, 2025	6 hours	6 x Rp. 15,000	90,000
August 23, 2025	6 hours	6 x Rp. 15,000	90,000
September 15, 2025	7 hours	7 x Rp. 15,000	105,000
October 7, 2025	6 hours	6 x Rp. 15,000	90,000
Rina's Total Wages			**Rp960,000**

Based on Table 11, Rina's total labor costs were Rp960,000 for 64 hours of work. Next, the labor costs for each worker were summarized to determine PT Matra Digital Group's total direct labor costs for 2025.

Table 12 Summary of Direct Labor Costs

Worker Name	Total Wages (Rp)
Andi	975,000
Budi	915,000
Sari	1,005,000
Rina	960,000
Total Direct Labor Cost	**Rp3,855,000**

PT Matra Digital Group's total direct labor costs in 2025 were Rp3,855,000, with 257 working hours. These costs were used in calculating the cost of goods manufactured using the job-order costing method based on actual working hours according to the production activity of each order.

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Factory Overhead Cost Calculation

Table 13 Electricity Costs

Month	Cost (Rp)
January 2025	271,704
February 2025	329,197
March 2025	279,801
April 2025	290,673
May 2025	294,594
June 2025	295,699
July 2025	265,498
August 2025	344,720
September 2025	278,584
October 2025	298,452
Total Electricity Cost	**2,948,922**

Based on Table 13, the total electricity cost for the period January to October 2025 was Rp2,948,922. Changes in electricity costs reflect differences in production activity and are part of factory overhead costs.

Table 14 Water Costs

Month	Cost (Rp)
January 2025	103,081
February 2025	114,680
March 2025	119,503
April 2025	85,701
May 2025	89,888
June 2025	115,474
July 2025	98,699
August 2025	105,685
September 2025	111,459
October 2025	103,361
Total Water Cost	**1,047,531**

Based on Table 15, the total water cost for the period January to October 2025 was Rp1,047,531. This cost fluctuates based on operational needs and remains factored into factory overhead when determining the cost of goods manufactured.

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Table 15 Machine Depreciation Costs

Month	Cost (Rp)
January 2025	150,000
February 2025	150,000
March 2025	150,000
April 2025	150,000
May 2025	150,000
June 2025	150,000
July 2025	150,000
August 2025	150,000
September 2025	150,000
October 2025	150,000
Total Machine Depreciation Cost	**1,500,000**

Based on Table 15, the total depreciation cost for the machine from January to October 2025 is Rp1,500,000. This cost is charged consistently every month and is calculated as factory overhead because it is related to the use of the production machine.

Table 16 Rental Fees

Month	Cost (Rp)
January 2025	500,000
February 2025	500,000
March 2025	500,000
April 2025	500,000
May 2025	500,000
June 2025	500,000
July 2025	500,000
August 2025	500,000
September 2025	500,000
October 2025	500,000
Total Rental Cost	**5,000,000**

Based on Table 16, the total rental cost for the period January to October 2025 was Rp5,000,000. This cost is a component of factory overhead charged on a fixed monthly basis to support production activities.

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Table 17 Recapitulation of Factory Overhead Costs

No	Type of Fee	Total Cost (Rp)
1	Electricity	2,948,922
2	Water	1,047,531
3	Machine Depreciation	1,500,000
4	Rent	5,000,000
	Total Factory Overhead Costs	**10,496,453**

Based on Table 17, the total factory overhead costs for the period January to October 2025 amounted to Rp10,496,453, with the largest cost coming from rental of premises amounting to Rp5,000,000. According to Mulyadi (2016), overhead costs are indirect production costs that are still calculated in the cost of goods manufactured.

Calculation of production costs using the Job Order Costing Method

Table 18 Summary of Production Costs Using the Job Order Costing Method

Cost Components	Total (Rp)
Direct Material Cost	8,859,000
Direct Labor Costs	3,855,000
Factory Overhead Costs	10,496,453
Total Cost of Goods Sold	**23,210,453**

Based on Table 18, the total cost of goods manufactured for the period January to October 2025 is Rp23,210,453, consisting of direct raw materials of Rp8,859,000, direct labor of Rp3,855,000, and factory overhead of Rp10,496,453. With a total production of 1,404 units, the COGS per unit is calculated by dividing the total COGS by the production quantity.

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Table 19 Comparison of Cost of Goods Sold

No.	Process Group	Number of Units	Raw Material Cost (Rp)	Direct Labor Cost (Rp)	Factory Overhead Costs (Rp)	Total Processing Cost (Rp)	Cost of Goods Sold per Unit (Rp)
1	Digital Printing	585	3,723,343.74	607,809.73	1,654,953.64	5,986,107.12	10,232.66
2	Manual Sewing	374	660,722.74	1,977,194.19	5,383,534.59	8,021,451.51	21,447.73
3	Screen Printing Manual	236	2,924,886.95	891,172.32	2,426,497.64	6,242,556.91	26,451.51
4	Printing + Laminating	209	1,550,046.57	378,823.76	1,031,467.13	2,960,337.46	14,164.29
	Total	**1,404**	**8,859,000**	**3,855,000**	**10,496,453**	**23,210,453**	—

Based on Table 19, the total production cost in the process costing simulation method is Rp23,210,453 for 1,404 units. The calculation results show that the COGS per unit is Rp10,232.66 for Digital Printing, Rp21,447.73 for Manual Sewing, Rp26,451.51 for Manual Screen Printing, and Rp14,164.29 for Printing + Laminating.

The highest COGS per unit was found in manual screen printing, while the lowest was found in digital printing. This difference indicates differences in allocated costs and production volumes for each process group. The simulation results were then compared with the job order costing method.

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Analysis of Cost of Goods Sold Calculation Results

Table 20 Job Order Costing Method and Process Costing Method Simulation

No.	Product	Production Method	Order Cost per Unit (Rp)	Process Cost per Unit (Rp)	Difference (Rp)
1	Vinyl Stickers	Digital Printing	10,648.78	10,232.66	416.12
2	ID Card	Printing + Laminating	14,164.29	14,164.29	0.00
3	*Banner*Flexi	Digital Printing	9,701.59	10,232.66	(531.07)
4	Spunbond Goodie Bag	Manual Sewing	21,447.73	21,447.73	0.00
5	Screen Printed T-Shirts	Screen Printing Manual	26,451.51	26,451.51	0.00

Based on Table 20, the job order costing method and the process costing simulation produce similar values for some products and different values for others. The differences occur because the job order method calculates costs based on each order, while the process method calculates costs based on production groups. Vinyl Stickers have a difference of Rp416.12 per unit and Flexi Banners Rp531.07 per unit. Meanwhile, ID Cards, Spunbond Goodie Bags, and Screen-Printed T-Shirts have the same values, respectively Rp14,164.29, Rp21,447.73, and Rp26,451.51 per unit. Overall, the differences lie in the collection and allocation of costs, not in the total production costs. The job order costing method provides more specific cost information per order, while the process costing method provides average costs based on production process groups.

DISCUSSION

Calculation of Cost of Goods Sold Using the Job Order Costing Method at PT Matra Digital Group

PT Matra Digital Group is a company whose production activities are based on customer orders. Each order can have different product types, quantities, designs, and specifications, depending on customer requirements. This situation indicates that the job order costing method is appropriate for calculating the company's production cost because production costs can be aggregated and assigned to each order.

Based on the research results, the calculation of production costs using the job-order costing method consists of three production cost components: direct materials, direct labor, and factory overhead. The direct materials cost in this study uses the value of raw materials used from inventory, not the total value of raw materials purchased.

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Based on the inventory calculation results, the total raw materials used during the period from January to October 2025 was Rp8,859,000.

The use of the inventory usage value indicates that only raw materials actually used in production activities are charged as production costs. Meanwhile, raw materials that are still available as ending inventory are not included in the cost of goods manufactured for that period. Thus, the calculation of raw materials used has been adjusted to the direction in the research, namely using the inventory usage value. In addition to raw materials, direct labor costs used in the calculation amounted to Rp3,855,000. This cost is obtained based on the number of working hours used in the production process with a labor rate of Rp15,000 per hour. Furthermore, factory overhead costs charged to production amounted to Rp10,496,453.

Based on these three components, the total cost of production using the job order costing method is:

IDR 8,859,000 + IDR 3,855,000 + IDR 10,496,453 = IDR 23,210,453.

With a production volume of 1,404 units, the average cost of production is:

IDR 23,210,453 ÷ 1,404 units = IDR 16,531.66 per unit.

These results indicate that the job order costing method provides information on the total production costs incurred by the company based on the orders received. This calculation also provides more specific information because production costs can be traced based on orders and products produced. Thus, the research results for the first problem formulation indicate that the calculation of PT Matra Digital Group's production costs using the job order costing method results in a total production cost of Rp23,210,453 with an average production cost of Rp16,531.66 per unit during the period from January to October 2025.

Simulation of Production Cost Calculation Using the Process Cost Method at PT Matra Digital Group

A simulation of the process costing method is performed to provide an overview of the calculation of production costs when a company's production costs are collected based on the production process over a period. This differs from the job-order costing method, which collects costs based on customer orders.

In this study, the production of PT Matra Digital Group is grouped into four process groups, namely Digital Printing, Printing + Laminating, Manual Sewing, and Manual Screen Printing. Based on production data, the Digital Printing group consists of 585 units

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of Vinyl Stickers and Flexi Banners, Printing + Laminating consists of 209 units of ID Cards, Manual Sewing consists of 374 units of Spunbond Goodie Bags, and Manual Screen Printing consists of 236 units of Screen Printed T-shirts. The total production of all process groups is 1,404 units.

The simulation results show that production costs in each process group are different because the amount of raw material costs, direct labor, and factory overhead charged to each process is different.

In the Digital Printing process, the total process cost is Rp5,986,107.12 with a production volume of 585 units, resulting in a production cost of Rp10,232.66 per unit. In the Manual Sewing process, the total process cost is Rp8,021,451.51 with a production volume of 374 units. The production cost obtained is Rp21,447.73 per unit.

In the Manual Screen Printing process, the total process cost is Rp6,242,556.91 with a production volume of 236 units. The cost of goods manufactured is Rp26,451.51 per unit. Meanwhile, the Printing + Laminating process has a total process cost of Rp2,960,337.46 with a production volume of 209 units, so the cost of goods manufactured is Rp14,164.29 per unit.

The simulation results show that the production cost per unit varies across processes. Manual screen printing produces the highest production cost per unit, while digital printing produces the lowest. This difference is related to the amount of production costs charged and the number of units produced in each process.

Thus, the research results for the second problem formulation show that the simulation of the process costing method produces production costs based on process groups, namely Rp10,232.66 per unit for Digital Printing, Rp21,447.73 per unit for Manual Sewing, Rp26,451.51 per unit for Manual Screen Printing, and Rp14,164.29 per unit for Printing + Laminating.

Analysis of Production Cost Calculation Using the Job Order Costing Method and Simulation of the Process Costing Method at PT Matra Digital Group

The analysis results show differences in the cost collection and allocation methods between the job order costing method and the simulated process costing method. In the job order costing method, production costs are collected based on each customer order. Meanwhile, in the simulated process costing method, production costs are collected based on production process groups throughout the study period.

These differences can be seen in the calculation results for each product. For the Vinyl Sticker product, the production cost using the job-order costing method is Rp10,648.78 per unit, while the simulation using the process costing method is Rp10,232.66 per unit. There is a difference of Rp416.12 per unit, so the simulation results using the process method are lower than the job-order costing method.

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For the Flexi Banner product, the cost of goods manufactured using the job order costing method is Rp9,701.59 per unit, while through the simulation of the process costing method it is Rp10,232.66 per unit. Thus, there is a difference of Rp531.07 per unit, where the results of the process method simulation are higher than the results of the job order costing method. Meanwhile, for ID Cards, Spunbond Goodie Bags, and Screen-Printed T-Shirts, the calculation results of both methods show the same value. ID Cards have a cost of goods manufactured of Rp14,164.29 per unit, Spunbond Goodie Bags of Rp21,447.73 per unit, and Screen-Printed T-Shirts of Rp26,451.51 per unit.

The difference in results is related to the characteristics of cost grouping in the two methods. In the job-order costing method, costs are calculated specifically for each job, so the costs associated with one job may differ from those associated with another. Meanwhile, in the process costing method, costs are aggregated across the same process group and then assigned to the units produced within that group.

This can be seen in the Digital Printing process, which consists of Vinyl Stickers and Flexi Banners with a total of 585 units. Because both products are in the same process group, the process costing method simulation produces one unit cost for the group, namely Rp10,232.66. In contrast, the job order costing method produces different unit costs for Vinyl Stickers and Flexi Banners because costs are calculated based on each order.

In other process groups, namely Printing + Laminating, Manual Sewing, and Manual Screen Printing, the results of the cost per unit are the same as the results of the order method because each group in the research data only consists of one type of product. Printing + Laminating consists of ID Cards, Manual Sewing consists of Spunbond Goodie Bags, while Manual Screen Printing consists of Screen Printed T-shirts.

Based on these results, it can be seen that the main difference between the two methods lies not in the total production costs, but in the way those costs are collected and assigned to products. The total production costs used in the study still consist of raw material costs, direct labor costs, and factory overhead costs for the same period. The difference arises in the cost of goods manufactured per unit due to the different cost allocation bases used.

Thus, the job order costing method provides more information about the costs associated with each order, while the process costing method simulation provides information about the average production costs based on process groups. The results of this analysis indicate that the process costing method simulation can be used as an alternative to observe the pattern of production cost allocation based on processes at PT Matra Digital Group.

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CONCLUSION

This study shows that the calculation of the cost of goods manufactured by PT Matra Digital Group using the job order costing method resulted in a total production cost of Rp23,210,453 for 1,404 units, with an average COGS of Rp16,531.66 per unit. Simulation of the process costing method resulted in different COGS per unit based on the process group, namely Rp10,232.66 for Digital Printing, Rp21,447.73 for Manual Sewing, Rp26,451.51 for Manual Screen Printing, and Rp14,164.29 for Printing + Laminating. Differences were mainly found in Vinyl Stickers and Flexi Banners because both products are in the same process group, but have different order costs. These results indicate that the job order costing method provides more specific cost information based on orders, while the process costing method provides cost information based on production process groups. Practically, the company can maintain the job order costing method as the main approach because it suits the characteristics of order-based production, while the simulation of the process costing method can be used as comparative information to evaluate cost allocation patterns.

This study has limitations because the analyzed data only covers the period from January to October 2025, and the simulation of the process costing method is based on the grouping of production processes available in the company's data. The study also focuses on direct raw materials, direct labor, and factory overhead, thus not addressing other aspects such as determining the selling price, profit, and efficiency of each order. Therefore, further research is recommended to use a longer period, cover more product types and orders, and consider cost efficiency and profitability analysis. For companies, the research results can be used as evaluation material in recording and allocating production costs to improve production cost information accuracy and support decision-making.

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