

Analysis of Merchandise Inventory Accounting System: Calculation Method

Selpi Mayarani ¹⁾, Safrizal ²⁾, Masril ³⁾

¹ STIE Mahaputra Riau, Indonesia, ² Politeknik Negeri Sriwijaya, Indonesia, ³ STIE Mahaputra Riau, Indonesia

Email: selvimayarani30@gmail.com¹, safrizalsafrizal662@gmail.com²,
masril@stie-mahaputra-riau.ac.id³

Abstract: *This study aims to analyze the inventory accounting system of merchandise with a focus on the calculation method applied in the company. Inventory is an important component in financial statements that directly affects the cost of goods sold and net profit. Therefore, the selection of calculation methods has a significant impact on the presentation of financial information. This study uses a qualitative descriptive approach with data collection techniques through interviews, observations, and documentation studies in one of the trading companies. The results of the study indicate that the company uses a perpetual inventory recording system with the FIFO calculation method, which is in accordance with Financial Accounting Standards (SAK). This method provides a higher ending inventory value in rising price conditions, as well as increasing the company's net profit. Although the inventory accounting system applied is quite effective, there are several administrative constraints that still need to be fixed to improve the efficiency and accuracy of recording. Thus, the selection and application of the right calculation method is very important to produce reliable and relevant financial reports for decision making).*

Abstrak : *Penelitian ini bertujuan untuk menganalisis sistem akuntansi persediaan barang dagang dengan fokus pada metode perhitungan yang diterapkan dalam perusahaan. Persediaan merupakan komponen penting dalam laporan keuangan yang secara langsung memengaruhi harga pokok penjualan dan laba bersih. Oleh karena itu, pemilihan metode perhitungan memiliki dampak signifikan terhadap penyajian informasi keuangan. Penelitian ini menggunakan pendekatan deskriptif kualitatif dengan teknik pengumpulan data melalui wawancara, observasi, dan studi dokumentasi pada salah satu perusahaan dagang. Hasil penelitian menunjukkan bahwa perusahaan menggunakan sistem pencatatan persediaan secara perpetual dengan metode perhitungan FIFO, yang sesuai dengan Standar Akuntansi Keuangan (SAK). Metode ini memberikan nilai persediaan akhir yang lebih tinggi dalam kondisi harga naik, serta meningkatkan laba bersih perusahaan. Meskipun sistem akuntansi persediaan yang diterapkan sudah cukup efektif, terdapat beberapa kendala administratif yang masih perlu diperbaiki untuk meningkatkan efisiensi dan keakuratan pencatatan. Dengan demikian, pemilihan dan penerapan metode perhitungan yang tepat sangat penting untuk menghasilkan laporan keuangan yang andal dan relevan bagi pengambilan keputusan..*

Keywords : *Accounting System, Merchandise Inventory, FIFO, Calculation Method, Financial Reports*

INTRODUCTION

Supply goods trade is one of asset important in company trade that is direct influence report finance, in particular in determination price main sales and profit clean. Management and recording

supply must be done in a way accurate and systematic through a reliable accounting system. Accountancy supply not only covers recording going out and entering goods, but also the methods of calculations used to evaluate supply ending.

The inventory method calculation has a significant influence on the company's financial statements. In the condition of price volatile goods, the usage method can produce mark supplies and profits are very different. Therefore, that analysis to system accountancy supplies and methods of calculation become important for understanding how far is the reliability of financial information generated and for ensuring compliance to Generally Accepted Accounting Principles (GAAP/SAK).

In the context of accounting, inventory goods trade need to be managed with a systematic, orderly and appropriate system standard applicable accounting system. Accountancy supply covers recording in and out goods, counting balance ending, and evaluation on mark supply said at the end period accounting. This is not can be separated from method calculation supplies used by the company, because every method can give different results and impacts to report finance, especially in the Cost of Goods Sold component sales (COGS) and profit clean company (Kartinah, 2021).

There is a number of methods general in calculation recognized inventory in practice accounting, namely FIFO (*First In First Out*), LIFO (*Last In First Out*), and the weighted average method (*Average*) (Indonesian Institute of Accountants, 2024). Each method has its own advantages and disadvantages and has a different impact on financial results. Like, in a situation where the economy is experiencing an increase in price goods (inflation), the FIFO method will produce mark supply more ending high and higher HPP low, so that increase profit clean (Nirmala, 2024). On the other hand, the LIFO method will give the opposite result. While weighted average method try to give mark the middle one is more stable (Saputra et al., 2023).

The selection of inventory methods is not a trivial matter, but rather something important to pay attention to, this is because it will have a direct impact on managerial decision making, company performance assessments by external parties, and in determining the taxes to be paid. (Safrizal et al., 2024). Therefore, that's important for company for not only choose appropriate method with condition his business, but also the appropriate one with standard applicable accounting (Hilia Anriva, 2024). In Indonesia, the implementation of system accountancy must referring to the Standard Accountancy Financial Accounting Standards (SAK) issued by the Association Indonesian Accountant (IAI), where method such as FIFO and average are allowed, whereas LIFO method does not acknowledge in financial statement.

Apart from side method, system recording inventory also has two approaches main, namely perpetual system and periodic system. The perpetual system is a system that is continuously take notes every transaction purchase and sale stock. So that information about quantity and value supply can know

every while. While periodic system only take notes transaction purchase, while mark inventory and COGS are calculated at the end period with do stock admission (Hariyanti et al., 2024) . The advantages and disadvantages of both systems must be taken into consideration in inventory management..

However, in practice, it doesn't all company own system adequate accounting. Many companies, especially in the MSME sector or company trade scale medium , not yet apply system recording and calculation accurate inventory (Ginting & Ruzikna, 2024) . This is can cause data mismatch, waste, even manipulation report finance. Inaccuracy in evaluation supplies also have the potential cause audit risk, presentation misleading information for investors, and inefficiencies in the production process and distribution.

Seeing the importance of this, analysis of the merchandise inventory accounting system and its calculation methods becomes very relevant. With do study to How A company record, manage, and evaluate stock, we can evaluate whether system the has walk in accordance with principles accounting and capable provide information reliable and relevant financial research. this can also give description how far the method calculations used impact to mark supply end, profit clean, and decision business taken.

In this context, an analysis was carried out on the merchandise inventory accounting system, especially in terms of calculation methods, aim for evaluate effectiveness the system implemented, its suitability with standard accounting, as well as the impact to presentation report finance.

METHOD

This study uses a qualitative descriptive approach with the aim of analyzing the inventory accounting system used by the company, especially in terms of calculation methods (Sugiyono, 2019) . This approach is used to gain a deep understanding of the implementation of the inventory recording system and the calculation methods used, and how significant their impact on the financial statements. This study was conducted at the trading company Cv. Raudhoh Berkah Madani Toko Herbal Pekanbaru. The data used in this study consisted of primary data obtained directly through interviews with parties involved in inventory management, namely the accounting, warehouse, and management departments. Furthermore, data was also obtained from secondary sources from company documents such as financial statements, inventory records, internal accounting policies, and other supporting documents. Data collection techniques used in this study were interviews, observations, and documentation in analyzing inventory. Furthermore, data analysis techniques used began by describing the inventory accounting system used by the company, identifying the inventory calculation method applied (FIFO, LIFO, or average method). Analyzing the impact of using the calculation method on inventory value and financial statements, and comparing the methods used with applicable accounting standards (SAK).

RESULTS AND DISCUSSION

Description Subject Study

CV Raudhoh Berkah Madani is a company engaged in the sale of souvenirs and various other goods. This shop was founded by a husband and wife named Mr. Ade Irawan and Mrs. Reny Amelia, established in 2017, precisely at Bebek Street No. 11B Pekanbaru, and already has two branches. Becoming companies that have commitment best in trading that is guided by sharia Islam as vision company with mission. Build business trade oriented to trust as well as satisfaction customers and improve mark company through benefit for public.

Company activities carry out activities that occur inside and outside the company, both directly and indirectly, which will affect the smooth running of the business. Thus, it is able to encourage the achievement of company goals effectively and efficiently in increasing optimal results. Activities main CV. Raudhoh Berkah Madani is move in the field trading sell buy souvenirs for hajj, umrah and herbal, target its sales that is sell buy wholesale and retail which are mostly his customers is buyers who buy the goods for souvenirs from stand holy and herbal for need healing and there are also those for for sale return.

Type of product traded most like dates, zam-zam water, chocolate, prayer mats and other herbs that have various brands and various price. For increase power competition sales, Cv.Raudhoh Berkah Madani has determined price sell the same with price market product said, so that price relatively affordable, and turnover goods are also increasing good.

Calculation Method Stock

In the calculation supply goods trade, Cv.Raudhoh Berkah Madani determines calculation supply based on income and expenses goods trade after price the raised from capital price, so that mark supply goods trade becomes higher than it should be. In the implementation system accountancy supplies used by the company is a perpetual inventory system and uses method FIFO calculation.

Based on the data presented in the discussion above and information from company, method calculation goods trade that is done Cv. Raudhoh Berkah Madani, namely calculation FIFO method. However, calculation the method Not yet perfect in accordance with theory. Application FIFO method according to theories used by internal accountants in companies trade for known goods enter, goods out and remaining goods in warehouse is as following:

Table 1. Sales and Purchases

Report Daily Enter Fruit Dates from CV. Raudhoh Berkah Madani
Period 1-30 May 2024

Purchase	Unit	Unit price	Total price
May 1st	500	26,500	13,250,000
May 7th	300	26,500	7,950,000
May 11	250	26,500	6,625,000
May 17	400	26,500	10,600,000
May 22	150	27,000	4,050,000
May 29	100	27,000	2,700,000
Sale	unit	Unit price	Total price
May 1st	35	35,000	1,225,000
May 2	20	35,000	700,000
3 May	30	35,000	1,050,000
May 4th	35	35,000	1,225,000
May 5th	25	35,000	875,000
May 6	15	35,000	525,000
May 7th	15	35,000	525,000
May 8th	15	35,000	525,000
May 9th	5	35,000	175,000
May 10	60	35,000	1,925,000
May 11	75	35,000	2,625,000
May 12	170	35,000	5,950,000
May 13	40	35,000	1,400,000
May 14	40	35,000	1,400,000
May 15	90	35,000	3,150,000
May 16	6	35,000	210,000
May 17	25	35,000	875,000
May 18	40	35,000	1,400,000
May 19	90	35,000	3,150,000
May 20	80	35,000	2,800,000
May 21	60	35,000	2,100,000
May 22	90	35,000	3,150,000
May 23	120	35,000	4,200,000
May 24	25	35,000	875,000
May 25	120	35,000	4,200,000
May 26	30	35,000	1,050,000
May 27	40	35,000	1,400,000
May 28	5	35,000	175,000
May 29	8	35,000	280,000
May 30	40	35,000	1,400,000
May 31	15	35,000	525,000

Source . Processed Data CV. Raudhoh Berkah Madani

Based on the data above , then furthermore done analysis calculation stock with use FIFO (*First In First Out*) method as following :

Table 2. FIFO Method Calculation

Calculation Method Fifi Perpetual Cv. Raudhoh Berkah Madani
Period May 1-31 2024

Date	Unit	Purchase		Price Main Point Sale			Inventory Balance		
		Price/ unit	Total	Unit	Price/ unit	Total	Unit	Price/ unit	Total
1							500	26,500	13,250,000
				35	35,000	1,225,000	465	26,500	12,322,500
2				20	35,000	700,000	445	26,500	11,792,500
3				30	35,000	1,050,000	415	26,500	10,997,500
4				35	35,000	1,225,000	380	26,500	10,070,000
5				25	35,000	875,000	355	26,500	9,407,500
6				15	35,000	525,000	340	26,500	9,010,000
7	300	26,500	7,950,000	15	35,000	525,000	325	26,500	8,612,500
							300	26,500	7,950,000
8				15	35,000	525,000	310	26,500	8,215,000
							300	26,500	7,950,000
9				5	35,000	175,000	305	26,500	8,082,500
							300	26,500	7,950,000
10				60	35,000	1,925,000	245	26,500	6,492,500
							300	26,500	7,950,000
11				75	35,000	2,625,000	170	26,500	4,505,000
							300	26,500	7,950,000
	250	26,500	6,625,000				250	26,500	6,625,000
12				170	35,000	5,950,000	300	26,500	7,950,000
							250	26,500	6,625,000
13				40	35,000	1,400,000	260	26,500	6,890,000
							250	26,500	6,625,000
14				40	35,000	1,400,000	220	26,500	5,830,000
							250	26,500	6,625,000
15				90	35,000	3,150,000	130	26,500	3,445,000
							250	26,500	6,625,000
16				6	35,000	210,000	124	26,500	3,286,000
							250	26,500	6,625,000
17	400	26,500	10,600,000	25	35,000	875,000	99	26,500	2,623,500
							250	26,500	6,625,000
							400	26,500	10,600,000
18				40	35,000	1,400,000	59	26,500	1,563,500
							250	26,500	6,625,000
							400	26,500	10,600,000
19				90	35,000	3,150,000	219	26,500	5,803,500
							400	26,500	10,600,000
20				80	35,000	2,800,000	139	26,500	3,683,500
							400	26,500	10,600,000
21				60	35,000	2,100,000	79	26,500	2,093,500
							400	26,500	10,600,000
22	150	27,000	4,050,000	90	35,000	3,150,000	389	26,500	10,308,500
							150	27,000	4,050,000
23				120	35,000	4,200,000	269	26,500	7,128,500
							150	27,000	4,050,000
24				25	35,000	875,000	244	26,500	6,466,000
							150	27,000	4,050,000
25				120	35,000	4,200,000	124	26,500	3,286,000
							150	27,000	4,050,000
26				30	35,000	1,050,000	94	26,500	2,491,000

						150	27,000	4,050,000	
27				40	35,000	1,400,000	54	26,500	1,431,000
							150	27,000	4,050,000
28				5	35,000	1,750,000	49	26,500	1,298,500
							150	27,000	4,050,000
29	100	27,000	2,700,000	8	35,000	280,000	41	26,500	1,086,500
							150	27,000	4,050,000
							100	27,000	2,700,000
30				40	35,000	1,400,000	1	26,500	26,500
							150	27,000	4,050,000
							100	27,000	2,700,000
31				15	35,000	525,000	136	27,000	3,672,000
							100	27,000	2,700,000
Total	1,200		31,925,000	1,464		52,640,000	236		6,372,000

Source . Processed Data Cv. Raudhoh Berkah Madani

With using the above data , and assumptions that price selling per unit is Rp. 26,500 where purchase and sale goods merchandise done in a way cash. The table above is calculation of the data obtained from Cv. Raudhoh Berkah Madani uses FIFO method started from date 01-31 May 2024, where in the table the there is supply enter or purchased and there is also a table price main sale Where table the containing calculation goods from warehouse Cv.Raudhoh Berkah Madani is for sale to its customers, and the last one there is table balance containing remainder stock in the warehouse Cv.Raudhoh Berkah Madani at the end month. The size stock the end that will be served in balance sheet as of May 31, namely : 236 units x Rp. 27,000 = Rp. 6,372,000. Meanwhile, the amount of sales, cost of goods sold and gross profit that will be presented in the profit and loss report for the month ending May 31 are as follows:

Sale	Rp. 52,640,000
Price sales point	<u>Rp. 31,925,000</u> -
Profit dirty	Rp. 20,715,000

The company uses the FIFO method, which is the calculation of goods coming in first will go out first, which means that older goods will be issued more than before to prevent damage or no longer being usable, in the calculation above we can find the initial stock in the warehouse worth 500 units with a cost price of Rp. 13,250,000 and at the end of the month there are 236 units remaining with a cost price of Rp. 6,372,000.

Impact to Report Finance

Use The FIFO method produces the Cost of Goods Sold (COGS) higher sale and low compared to method other in condition price increases. Higher net income, as the difference between sales and COGS becomes larger. The final inventory value becomes higher, which results in an increase in total assets on the balance sheet. However, there is potential weaknesses, namely subtraction realization profit

If happen fluctuation price sharp or decline price in period next, because mark high inventory Possible No reflect mark the actual realization.

Compliance with Standard Accountancy

The FIFO method applied by the company Already in accordance with provision in Standard Accountancy Financial Accounting Standards (SAK) applicable in Indonesia. SAK allows use a number of method calculation supply such as FIFO and average methods, but LIFO method does not allowed in reporting finance external.

System accountancy supply goods trade own a very important role in recording, monitoring and compiling report finance company trade. The good of inventory management will produce accurate data for calculating Cost of Goods Sold (COGS) which will ultimately affect the calculation of profit and loss. Therefore, the recording system and inventory calculation method must be chosen appropriately so that the information produced can be relied on in managerial decision making and financial reporting. In practice, Cv. Raudhoh Berkah Madani uses recording supply with perpetual system, where existence recording debts and receivables. The perpetual system is assessed more accurate and responsive because give information latest about quantity and value supply (Hariyanti et al., 2024) . However, the system this need support technology and resources power a qualified human being (Hariyanti et al., 2024) . Findings this in line with research previous as done (Purwanto et al., 2024) , (Andami et al., 2023) , (Sakdah et al., 2022) . In studies case analyzed, company apply perpetual system with method FIFO calculation. This is show compliance to standard applicable accounting as well as choice appropriate strategic with need company. With using FIFO, the company can serve report finance with mark supply the end is near current market prices. In addition, the perpetual system allows company for monitor stock in a way efficient and minimize risk lack or excess goods.

CONCLUSION

Based on the results and discussions and findings found by researchers, it can be concluded that inventory management is carried out by employees properly based on the procedures established by the company, starting from purchasing, the purchasing department starts from determining goods from suppliers to ordering goods and shipping goods, and storage of goods is recorded properly in the inventory book, and the sales department records adjustments to goods, all of which have followed the procedures determined by the company manager. Internal control implemented is quite good but is still vulnerable to danger and risk, because from the purchasing mechanism, storage of goods, recording to sales, the company still uses manual data entry. Old company data is not stored properly, most of the company's data archives are starting to be damaged and lost. The company has not regulated and made

written regulations regarding the separation of functions in each section, and has not implemented healthy practices in their entirety .

In this research conducted with sufficient time and findings and problems that can be found during the research, the suggestions that researchers can convey to the company should be to re-formulate and negotiate the company's regulations and internal controls by adding several systems. Regular training is needed for staff involved in inventory management and recording in order to better understand the use of the accounting systems and methods used, and the Company is advised to conduct regular evaluations of the inventory calculation methods used to remain relevant to market conditions and business characteristics.

The implications of this study indicate that the application of the right inventory calculation method has a direct impact on the quality of the financial information produced, which ultimately influences managerial decisions, as well as compliance with accounting regulations. This study also contributes to other trading companies in choosing the appropriate inventory accounting method, as well as to academics as a material for further study in the field of accounting information systems and inventory management

REFERENCES

- Andami, RF, Sudrartono, T., & Agustin, C. (2023). Design of the “SI ULET” Accounting Information System for Quick Calculation of Merchandise Inventory at AtariaShop Plastic Houseware West Bandung. *Indonesian Journal of Economics and Management* , 3 (2), 253–270. <https://doi.org/10.35313/ijem.v3i2.4729>
- Ginting, CAB, & Ruzikna, R. (2024). Financial Management Analysis in MSMEs (Case Study of Geprek Chicken Stall in Simpang Baru Village, Pekanbaru City). *ECo-Buss* , 7 (1), 522–533. <https://doi.org/10.32877/eb.v7i1.1412>
- Hariyanti, TP, Minarni, E., & Permatasari, F. (2024). Analysis of merchandise inventory accounting system (case study on Bonabon Tulungagung wholesale). *Journal of Accounting and Tax* , 3 (1), 42–58.
- Hilia Anriva, D. (2024). Challenges and Solutions of Accounting Information System Implementation in Indonesia: A Thematic Analysis. *Journal of Accounting* , 13 (2), 97–109. <https://doi.org/10.46806/ja.v13i2.1182>
- Indonesian Institute of Accountants. (2024). *PSAK No.14 on Inventories* .
- Kartinah, D. (2021). Analysis Of Accounting Information System In Merchantability Inventory With Fifo And Average Method At Pt. Play Dennis. *International Journal of Science, Technology & Management* , 2 (5), 1836–1840. <https://doi.org/10.46729/ijstm.v2i5.352>
- Nirmala, I. (2024). FIFO Method Improvement and Adjustment Design for PT. ABC Warehouse Plans. *Jurnal Ilmiah Manajemen Kesatuan* , 12 (3), 637–648. <https://doi.org/10.37641/jimkes.v12i3.2553>

- Purwanto, AD, Fitria, BT, Juhara, D., & Ramdani, A. (2024). Influence of the Merchandise Inventory Accounting Information System on Internal Control of Merchandise Inventory. *Business & Science and Technology Magazine* , 17 (1), 57–66. <https://doi.org/10.55208/bistek.v17i1.576>
- Safrizal, S., Zandra, SW, Mayarani, S., & Ramadhani, NS (2024). *Implementation of Accounting Systems at SMEs Arkan Belimbing Pekanbaru* . 4 (1), 12–20.
- Sakdah, L., Fitriano, Y., & Rahman, A. (2022). Analysis of Merchandise Inventory Accounting Information System at PT Konimex Bengkulu City. *Journal of Economics, Management, Accounting and Finance* , 3 (4), 1399–1408. <https://doi.org/10.53697/emak.v3i4.951>
- Saputra, RA, Sambani, EB, Rachman, R., Latif, D., & Putra, YP (2023). *Inventory Information System Using LIFO Method (Case Study on Goods Distribution Company Study in Bandung)* . 1 (1), 166–173.
- Sugiyono. (2019). *Qualitative Quantitative Research Methods and R&D* . Alfabeta.