

FOR THE STUDENT

THE MANAGEMENT ACCOUNTANT



An Effort By : Prof. Prabodh Nayak

This issue covers :

Valuation of Inventory

Accountants first gather information and then quantify it into figures and statistical data. This is done to examine past performance as well as make future estimates. One of the primary objectives of management accounting is to maximize profits and minimize losses. It involves data presentation to predict any inconsistencies with finances.

Objectives of Management Accounting

- Better Decision Making
- Proper Planning and Formulation of Policies
- Controls Management Performance
- Interprets Financial Information
- Motivates Employees
- Communicates Up-to-date Information
- Evaluates policies effectiveness

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Management Accounting



AUTHOR'S NOTE

ROLE OF MANAGEMENT ACCOUNTANT

Historically, the Management Accountant was referred to as “The Controller” due to their responsibility for overseeing financial and cost accounting. Their role involved gathering data and providing reports to all levels of management, assisting and guiding managers in problem-solving, and identifying opportunities that could enhance the organization's value.

MANAGEMENT ACCOUNTING AS A CAREER

Management Accounting is a cross-functional role that requires regular collaboration with experts in sales, human resources, finance, and production across all tiers of the organization. This role is vital for any business. To carry out their responsibilities effectively, management accountants need to have a solid understanding of not just accounting, but also other key areas of business. Additionally, strong verbal and written communication skills are essential for a management accountant to thrive.

CHANGING COMPETITIVE ENVIRONMENT

Before the 1980s, numerous organizations in Western nations functioned within a safeguarded competitive landscape. Communication barriers, geographical distances, and occasionally protected markets restricted the capacity of foreign companies to compete in local markets. As a result, there was minimal motivation for companies to enhance efficiency, refine management practices, or reduce costs, since any cost increases could frequently be transferred to consumers.

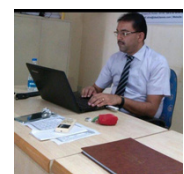
In the 1980s, organizations faced intense competition from international rivals who provided high-quality products at lower prices. These competitors created global networks to source raw materials and distribute their products internationally, allowing them to penetrate domestic markets worldwide. As a result, companies now need to compete not only with local rivals but also with the top firms globally to succeed.

Achieving excellence in manufacturing can serve as a powerful advantage in competing within complex global markets. To compete successfully, businesses need to produce innovative, high-quality products at a low cost while also delivering exceptional customer service. Additionally, they must be adaptable to handle short product life cycles, meet the demands for a wider range of products from discerning customers, and face rising international competition.

Almost all types of service organizations have encountered significant changes in their competitive landscape. Before the 1980s, many service providers, including those in the airline, utility, and financial sectors, were either government-owned monopolies or functioned in a heavily regulated, protected, and non-competitive setting. These organizations faced little pressure to enhance the quality and efficiency of their operations or to boost profitability by cutting unprofitable services or products. Prices were established to cover operating expenses and ensure a predetermined return on investment. As a result, cost increases could often be managed by raising service prices. Consequently, there was minimal focus on creating cost systems that accurately assessed the costs and profitability of individual services.

The privatization of state-owned enterprises and the deregulation that occurred in the 1980s significantly transformed the competitive landscape for service companies. Pricing and competitive limitations were largely removed. This deregulation, along with heightened competition and a broader array of products, necessitated that service organizations prioritize cost management and establish management accounting information systems. These systems allowed them to comprehend their cost structures and identify the factors contributing to profitability across their products, customers, and markets.

In recent years, many service organizations have begun to focus on management accounting. A significant trend in the business landscape over the past few decades has been the expansion of the service sector and the development of management accounting roles within these organizations.



Prabodh B Nayak

VALUATION OF INVENTORY

Perpetual Inventory

Perpetual inventory involves continuously documenting the receipts, issues, and resulting balances of individual inventory items, either in terms of quantity or both quantity and value.

- Inventory records are maintained through the use of stores ledger cards and bin cards.
- Bin cards provide a record of the receipts, issues, and balances of the quantity of inventory items managed by the stores.
- Similar to stores ledger cards, bin cards display materials that have been received (from purchases and returns) and issued (from requisitions).

STORES LEDGER CARD								
Description: _____			Unit: _____		Location: _____		Code: _____	
Maximum: _____			Minimum: _____		Reorder level: _____		Reorder quantity: _____	
Receipts			Issues			On order		
Date/ref	Quantity	\$	Date/ref	Quantity	\$	Date/ref	Quantity	\$

Importance of Inventory Valuation

Inventory valuation is a critical aspect of financial and management accounting. It directly impacts a company's profitability, tax liability, and financial position. Here are key reasons why inventory valuation is important:

1. Accurate Financial Reporting

Inventory is a significant component of a company's assets. The valuation method used (FIFO, LIFO, or Weighted Average) affects the cost of goods sold (COGS) and, consequently, the net income reported in financial statements.

2. Impact on Profitability

Since COGS is deducted from revenue to determine profit, an incorrect inventory valuation can either inflate or understate profits. A higher inventory valuation lowers COGS, increasing profit, while a lower valuation increases COGS, reducing profit.

3. Taxation and Compliance

Inventory valuation affects taxable income. Overstating or understating inventory can lead to discrepancies in tax calculations, potentially resulting in legal consequences. It is essential to follow GAAP (Generally Accepted Accounting Principles) or IFRS (International Financial Reporting Standards).

4. Business Decision-Making

Proper inventory valuation helps businesses make informed decisions regarding pricing, purchasing, production, and sales strategies. It ensures that stock levels are maintained efficiently to prevent overstocking or stockouts.

5. Investor and Stakeholder Confidence

Investors, creditors, and other stakeholders analyze a company's financial statements to assess its financial health. Accurate inventory valuation ensures transparency and reliability in financial reporting, fostering investor confidence.

6. Loan and Credit Approvals

Lenders and financial institutions consider inventory as collateral for loans. An accurate inventory valuation ensures the correct assessment of a company's financial strength, making it easier to secure funding.

7. Cost Control and Efficiency

Inventory valuation helps in tracking material costs, identifying wastage, and improving supply chain management. It assists in setting optimal reorder levels and production planning.

8. Inflation and Market Trends Impact

Different valuation methods respond differently to inflation. For example, FIFO (First-In, First-Out) reflects a lower cost in times of inflation, while LIFO (Last-In, First-Out) shows higher costs, impacting profit and taxes accordingly.

FIFO (First-in-First-Out)

In this case, what is produced first will be sold first. Similarly, in the case of raw materials, whichever raw materials are purchased first, they will be issued to production first. Thus the inventory is valued at the latest price.

Advantages

- Logical – reflects the most likely physical flow.
- Easily understood.
- Inventory values at up-to-date prices.
- Acceptable to HM Revenue and Customs and IAS2.

Dis-Advantages

- Issues may be at out-of-date prices.
- In times of rising prices reported profits are high ('high' closing inventory valuations).
- Cost comparisons between jobs are difficult



LIFO (Last-in-First-Out)

In this case, what is produced last will be sold first. Similarly, in the case of raw materials, whichever raw materials are purchased last, will be issued to production first. Thus the inventory is valued at the old/earliest price.



Advantages

- Issue prices are up-to-date.
- In times of rising prices, reported profits are reduced (where closing inventory is valued at 'lower' cost).

Dis-Advantages

- Not usually acceptable to the HM Revenue & Customs and accounting standards.
- Inventory values may become very out-of-date.
- Cost comparisons between jobs are difficult

Average Cost Method

In this case, all the issues and the inventory are valued at average cost/price. The Average Cost Method (AVCO) is a widely used inventory valuation technique that assigns an average cost to each unit of inventory available for sale during a period. This method smooths out price fluctuations, making it useful in industries with frequent cost variations.

Advantages

- Reduces Price Fluctuations: Smoothens the impact of price changes over time.
- Simplifies Accounting: Requires less tracking compared to FIFO or LIFO.
- Suitable for Bulk Purchases: Works well for industries with high inventory turnover (e.g., retail, manufacturing).
- Accepted under GAAP & IFRS: Unlike LIFO, which is not allowed under IFRS, the Average Cost Method is globally accepted.

Dis-Advantages

- Less Reflective of Market Trends: Does not always reflect the most recent cost of inventory.
- Not Ideal for Perishable Goods: FIFO is a better method for products with expiration dates.
- May Understate or Overstate Profits: During inflation, it results in moderate profits compared to FIFO or LIFO.

Illustration 1

FOX Inc had the following material transactions during the first week of January 2025.

		Qty (in Units)	Unit Cost (\$)
Opening balance	1 st January	10	3.00
Receipts	2 nd January	70	3.30
Issues	3 rd January	40	
Receipts	4 th January	50	3.40
Issues	5 th January	70	

Show the value of inventory at the end of the week using :

- (a) FIFO Method
- (b) LIFO Method and
- (c) Weighted average cost Method

(a) Using FIFO Method

DATE	DETAILS	RECEIPTS			ISSUES			BALANCE		
		Q	R	V	Q	R	V	Q	R	V
Jan 1	Opening balance							10	3.00	30.00
Jan 2	Receipts	70	3.30	231.00				10	3.00	30.00
								70	3.30	231.00
Jan 3	Issues				10	3.00	30.00	40	3.30	132.00
					30	3.30	99.00			
					40		129.00			
Jan 4	Receipts	50	3.40	170.00				40	3.30	132.00
								50	3.40	170.00
Jan 5	Issues				40	3.30	132.00	20	3.40	68.00
					30	3.40	102.00			
					70		234.00			
								20		68.00

Thus, as per FIFO Method there are 20 units in the inventory valued at \$68

Cost of issues = 129 + 234 = \$363.00

It can be clearly seen that the inventory is valued at the latest price under FIFO method.

(b) Using LIFO Method

DATE	DETAILS	RECEIPTS			ISSUES			BALANCE		
		Q	R	V	Q	R	V	Q	R	V
Jan 1	Opening balance							10	3.00	30.00
Jan 2	Receipts	70	3.30	231.00				10	3.00	30.00
								70	3.30	231.00
Jan 3	Issues				40	3.30	132.00	10	3.00	30.00
								30	3.30	99.00
Jan 4	Receipts	50	3.40	170.00				10	3.00	30.00
								30	3.30	99.00
								50	3.40	170.00
Jan 5	Issues				50	3.40	170.00	10	3.00	30.00
					20	3.30	66.00	10	3.30	33.00
					70		236.00			
								20		63.00

Thus, as per FIFO Method there are 20 units in the inventory valued at \$63

Cost of Issues = 132 + 236 = \$368.00

It can clearly be seen that the inventory is valued at the earlier price under LIFO method.

(c) Using Average Cost Method:

DATE	DETAILS	RECEIPTS			ISSUES			BALANCE		
		Q	R	V	Q	R	V	Q	R	V
Jan 1	Opening balance							10	3.00	30.00
Jan 2	Receipts	70	3.30	231.00				80	3.26	261.00
Jan 3	Issues				40	3.26	130.40	40	3.26	130.60
Jan 4	Receipts	50	3.40	170.00				90	3.34	300.60
Jan 5	Issues				70	3.34	233.80	20	3.34	66.80
								20		66.80

Thus, as per Average Cost Method there are 20 units in the inventory valued at \$66.80

Cost of Issues = 130.40 + 233.80 = \$364.20

ECONOMIC BATCH QUANTITY (EBQ)

Economic Batch Quantity (EBQ) is a production management concept that determines the optimal number of units to produce in a single batch to minimize total costs, including setup and holding costs. It is similar to the Economic Order Quantity (EOQ) used in inventory management but is applied in manufacturing and production settings.

$$EBQ = \sqrt{\frac{2DS}{H} \times \frac{P}{P - R}}$$

Where:

- D = Annual demand for the product
- S = Setup cost per batch
- H = Holding cost per unit per year
- P = Production rate per year
- R = Demand rate per year

ASSUMPTIONS OF EBQ

1. **Constant Demand** – The demand for the product is known and steady.
2. **Constant Production Rate** – The production rate is fixed and exceeds demand.
3. **Instantaneous Setup** – There is a fixed setup time before production begins.
4. **No Stockouts** – The batch size is planned to prevent shortages.
5. **Single Product Consideration** – EBQ is calculated for one product at a time.

KEY BENEFITS OF USING EBQ

- **Minimizes Cost** - Balances setup and holding costs to optimize batch size.
- **Reduces Idle Time** - Ensures smooth production flow by reducing frequent setups.
- **Better Resource Utilization** – Prevents excessive inventory while keeping production efficient.
- **Increase in Cash flow** - Producing and maintaining the right batch size helps you to improve your cash flow by reducing the amount blocked in inventory. You can use this cash flow to grow your business further.
- **Streamlined Production** - Having a perfect batch size, manufacturers can align their production with demand while avoiding over-production or shortages of the product.
- **Competitive Advantage** - Efficient batch production increases the ability to meet the customer's demands quickly and cost-effectively. This quick responsiveness can give you a competitive edge over other sellers in the market.

Illustration 2

A company, Excel Auto Parts Ltd., manufactures brake pads for automobiles. The company faces a trade-off between setup costs and holding costs while determining the optimal batch size for production. You are asked to help the management in this regard and are provided with the following data:

Annual Demand (D) : 50,000 units

Setup Cost per Batch (S) : \$500

Holding cost per unit per year (H) : \$2

Production Rate (P) : 10,000 units per month = 120,000 units per annum

Demand Rate (R) : 50,000 units per year

STEP 1: Apply the EBQ formula

$$EBQ = \sqrt{\frac{2DS}{H} \times \frac{P}{P-R}}$$

$$EBQ = \sqrt{\frac{2 \times 50,000 \times 500}{2} \times \frac{120,000}{120,000 - 50,000}}$$

$$EBQ = \sqrt{\frac{50,000,000}{2} \times \frac{120,000}{70,000}}$$

$$EBQ = \sqrt{25,000,000 \times 1.714}$$

$$EBQ = \sqrt{42,850,000}$$

Thus EBQ is 6,547 units

STEP 2: Interpretation of Results

To produce 6,547 units per batch.

Given that the annual demand is 50,000 units, the company has to produce $50,000/6,547 = 7.64 = 8$ Batches.

STEP 3: Conclusion

By following EBQ, the company balances setup and holding costs, reducing unnecessary setup changes and excessive inventory storage.

Using Economic Batch Quantity (EBQ):

- The company efficiently schedules production.
- It minimizes costs while meeting demand.
- The optimal batch size prevents overproduction and excessive storage.

TREATMENT OF CERTAIN SPECIAL ITEMS

1] Wastage - It represents that portion of materials that is lost in storage, handling and in manufacturing processes. It does not have any recovery value. Waste may be visible, unsaleable remnants or residues or it may be invisible, disappearance of materials through evaporation, smoke etc.

Accounting Treatment - Waste may be classified as normal and abnormal. Normal waste is absorbed in the cost of production of good output. However, abnormal waste is transferred to the costing profit and loss account.

2] Scrap - It refers to the incidental residue from certain types of manufacture viz, metal chips obtained from stamping, turnings, filings etc. It is usually of a low value recoverable without further processing.

Accounting Treatment - Normal scrap may be treated in two ways :

a) If the realisable value is negligible it may be excluded from costs. In other words, the cost of scrap is borne by good units and income from scrap is treated as other income.

b) Alternatively, the sales value of scrap, after charging selling and distribution expenses is deducted from factory overheads to reduce the overhead rate.

In case of abnormal scrap - a separate scrap account is opened and it is debited with full cost of material and credit is given to the job or process concerned. The sale value of such scrap is credited to this account. The profit or loss in the scrap account is then transferred to the costing profit and loss account.

3] Spoilage - It results when products are damaged in manufacturing operations in such a way that they cannot be rectified economically and hence have to be taken out of the process and disposed off in some other manner without further processing.

Accounting Treatment - Normal spoilage is included in the cost of goods production either by charging the loss due to spoilage to the production order or charging it to production overheads so that it is spread over all products. Any value realized from spoilage is credited to production overheads account. The cost of abnormal spoilage is charged to costing profit and loss account.

4] Obsolete Materials - They are those materials which are no more required for production because they have become redundant and the production of the product where the material was used is discontinued. Due to change in design, nature of product etc. some materials may become obsolete.

Accounting Treatment - Loss due to normal obsolescence may be included in the cost of a product. But loss on account of abnormal obsolescence should be excluded from the cost of production and charged to costing profit and loss account.

