4 BASIC CONCEPTS OF COST ACCOUNTING

An Introductory Guide to Cost Accounting for Non-Accounting Students

SABRINA ISNIN

- POLITEKNIK MERLIMAU -

A Publication of



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Last but not least, thank you to my colleagues who have helped me directly or indirectly with their input.

Preface

This book can be useful to those who are seeking the basic concepts of cost accounting. This book aims to enhance knowledge of basic cost accounting for beginners.

Sabrina Isnin

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DEFINITION OF COST ACCOUNTING

The definition of costing is "the determination of cost." In other words, accounting and costing principles, methodologies, and procedures are used to determine the costs. Costs might be determined either after or before they are incurred (known as estimates)

Cost accounting is concerned with cost recording, classification, and summarising in order to calculate product or service costs, as well as cost planning, control, and reduction, and providing information to management for decision-making.

Various respected sources provide several definitions of cost accounting.

Costing is described by the Institute of Cost and Management Accountants (ICMA) London as the process of determining costs. This comprises cost estimation methodologies and procedures.

- According to C.Dury, cost accounting is concerned with accumulating costs for stock valuation in order to meet the requirements of external reporting, whereas management accounting is concerned with providing appropriate information to people within the organisation to assist them in making better decisions.
- Cost accounting is "the process of accounting for cost from the point at which money is paid or committed to the establishment of its ultimate relationship with cost centres and cost units," according to the Chartered Institute of Management Accountants in England (CIMA). In its broadest meaning, it includes the preparation of statistical data, the implementation of cost management methods, and the measurement of the profitability of operations that have been carried out or planned. It is a formal mechanism for determining and controlling the cost of products and services.

Costing, thus, refers to an examination of data that allows management to understand the cost of producing and selling, that is, the overall cost of various products and services, as well as how the total cost is calculated.

Objectives of cost accounting

□ To determine product costs :-

Total product cost and cost per unit of product are used in inventory assessment, product pricing, and managerial decision-making.

To facilitate planning and control of regular business activity:-

generating meaningful cost statistics and information for planning and management, as well as achieving a balance between actual and budgeted performance.

To supply information for decision:-

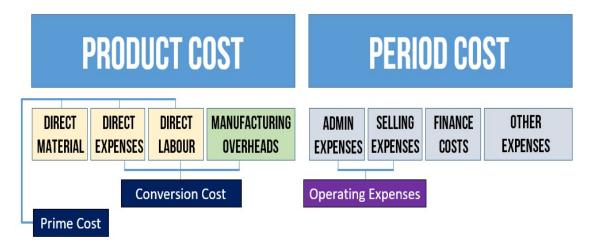
To give data and specific analysis for non-recurring short and long-term decisions.

COST TERMINOLOGY

- □ **COST**: The term "cost" refers to the amount of money spent on anything. It is essentially the cost of producing products and services in cash or currency equivalents.
- COSTING: The process of determining expenses is known as costing.
- COST ACCOUNTING: The implementation of cost control strategies and the determination of the profitability of current or projected operations.
- COST CONTROL: Expense control refers to management's cost management.
- □ JOB COSTING: It aids in calculating the cost of production for each order and, as a result, the profit or loss realised upon completion. Management can examine the profitability of each job and choose its future course of action.
- BATCH COSTING: Because batch costing is done in batches, with each batch including a specific number of units, identifying the optimal quantity to generate an economical batch is crucial.

Product and Period Cost

- **Product cost :** Resale products are goods that are manufactured or purchased for resale. Direct labour, direct materials, consumable production supplies, and factory overhead are all included in these rates. Product costs may include the cost of labour required to provide a service to a consumer.
- **Period costs :** Expenses that aren't accounted for in the stock price. Costs that are not tied to or related to the generation of inventories are referred to as period expenses. Selling, general and administrative expenses, marketing expenses, CEO salaries, and corporate office rent expenses are just a few examples. These expenses are expensed in the period in which they are incurred since they are unrelated to inventory production. Because these costs are unrelated to inventory production, they are expensed in the period in which they are office rent expensed in the period in which they are expensed in the period in the period in which they are expensed in the period in which they occur.



Cost Behavior

- Cost behavior is a predictor of future total costs. In cost accounting and managerial accounting, three types of cost behavior are widely investigated.
 - Variable Cost These are expenses that vary in direct proportion to the amount of work completed. A variable cost's total amount rises in lockstep with the growth in activity. When an activity is reduced, the total amount of a variable cost decreases as well. A variable cost is, for example, the cost of flour in a bakery that manufactures bread. As the quantity of breads made increases, the overall cost of flour utilized by the bakery rises.
 - Fixed Cost The aggregate amount of a constant cost does not vary when an activity increases or decreases. These are costs that remain constant regardless of how much production activity varies within a specific range. For example, regardless of production, rental costs will remain consistent. Fixed costs include depreciation and insurance on bakery plant and equipment. Regardless of the quantity of artisan breads baked in a month, the overall amount of depreciation and insurance costs will stay the same.

Cost Behavior

Mixed or semi variable costs- The nature of these expenses is both fixed and variable. Natural gas is an example of a mixed cost or partially variable cost at the bakery. The monthly gas payment includes a flat rate for utilities as well as the cost of heating the building. Whether the bakery produces more or fewer loaves of bread has no bearing on these two components of the gas bill. The cost of running the ovens, on the other hand, accounts for a third of the gas bill. This is a variable expense because the ovens will need to run for longer periods of time to make more bread loaves.

The Elements of Cost are the four types of product costs and period costs.





CHAPTER ONE

Material



Material

Direct material & indirect material.

Materials represent a company's resources for the production of its finished goods and products. The term "materials" is commonly used in the manufacturing industry to refer to the raw materials utilized in the manufacturing process. Materials costs are a significant component of the total cost of manufacturing firms' products.

Material is divided into two types: direct and indirect material.

- **Direct material:** refers to any materials that become a part of the product and whose costs are directly charged as part of the prime cost.
- **Indirect material:** These are materials that are not connected to a specific product or job but are used in the production process.

Direct material

Direct material usually includes all materials in the finished product and must be easily identified.

For example:-

- Plastic used to build toys is an example of a direct material expense for a toy manufacturer.
- □ Flour, eggs, yeast, sugar, oil, and water are the primary ingredients used by bakers.
- □ The wood that is used to build a house.
- □ The steel that is used in automobiles.
- □ A circuit board is a component of a computer.
- □ The material that is used to make garments.



Indirect material

Indirect materials are defined as materials that are not traceable to a specific product or job in the manufacturing process. Those materials are usually used in small amounts per product.

Examples of indirect materials :

- □ Glues and adhesives
- Oils and lubricants
- Cleaning supplies



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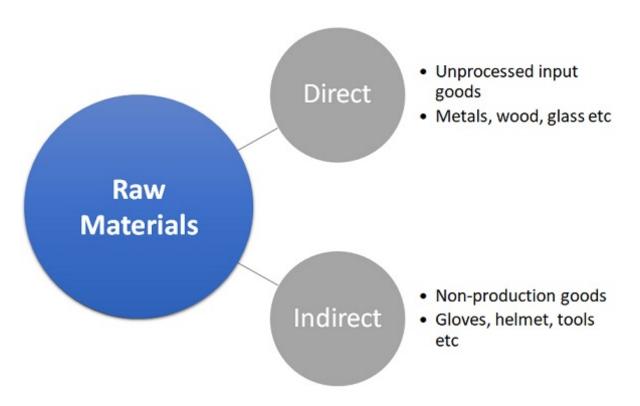


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Materials control is largely concerned with ensuring that materials are acquired, stored, and consumed efficiently.

The following are the objectives in a good system of materials control.

- □ When materials of the desired quality are required for effective production, they will be available. Materials shall only be purchased when there is a demand for them and in reasonable quantities.
- Materials expenditures shall be kept to a minimum in order to meet operational requirements. Purchases of materials will be conducted at the lowest feasible cost and on the most favorable terms.
- Materials are preserved against loss or damage due to fire, theft, and handling with the support of proper physical control.
- Materials should be stored so that handling them requires the least amount of time and effort.

A number of methods are used for the purpose of material control. The following are the methods of materials control.

□ ECONOMIC ORDER QUANTITY (EOQ).

□ STOCK LEVELS.

ECONOMIC ORDER QUANTITY (EOQ).

This is the most economical way to place an order. EOQ is the optimal order size that minimizes carrying costs and ordering costs. In other words, it equates the cost of ordering with the cost of storage materials.

$$EOQ = \frac{2DO}{\sqrt{PCs/C}}$$

- D = total demand for material during a given period or the annual quantity used
- O = Cost of placing and receiving and order
- P = Price
- Cs = Cost of storage of material
- C = The annual cost of carrying one unit of material.

STOCK LEVELS

The stock level is to determine the reorder level and the maximum or minimum quantity to be stored. How much a storekeeper will request will depend on the above three levels.

The following stock levels must be determined correctly:

- a) The re-order level
- b) The minimum stock level
- c) The maximum stock level

Re-Order Level

A purchase demand for fresh supplies must be initiated at this stage. It is affected by:

- a) The rate of consumption of materials
- b) The time required to obtain new supplies (Re Order period)
- c) Normal or average consumption

Re Order Level = Maximum Consumption X Maximum Re Order Period

Minimum Stock Level

The lowest point below which stocks should not normally fall is the minimum stock level. It is affected by:

- a) The rate of consumption of materials
- b) Re order period

Minimum Stock Level =

Re order Level – (Normal @Average Consumption X Normal @ Average Re Order Period)

Maximum Stock Level

In normal conditions, The maximum stock level is where stocks should be permitted to climb to. It is influenced by:

- a) The rate of consumption of materials
- b) The re order period
- c) Amount of capital available
- d) Cost of storage
- e) Price fluctuation

Maximum Stock Level = Re Order Level – (Min. Consumption X Min. Re Order Period) + EOQ

Example:

In respect of materials MXZ, the following data are available:

lead-time from suppliers is estimated a maximum 4 months and minimum 2 months. The average lead-time is 3 months.

Budgeted consumption:	maximum 300 units/month	
	Minimum 50 unit/month	

Annually 1,800 units

Cost of storage is 25% per annum. Ordering cost is RM2.00 per order. Price per units or materials is RM0.32

Calculate EOQ and all the stock level.

a) Economic Order Quantity

	EOQ = √	v	2DCo		
LUQ	LUQ	-	•	PCs	
			=	v	<u>2 x 1,800 x 2</u>
				-	0.32 x 0.25
			=	٧	7,200
					0.08
			=	v 90	,000
		EOQ	=	300	units
b)	re-order level		=	300	x 4
			=	<u>1,20</u>	0 units

c)	Minimum stock level =	1,200 – (150 x 3)
	=	750 units
d)	Maximum stock level =	1,200 – (50 x 2) + 300
	=	1,400

Words are the raw material out of which literature is crafted. Francine Prose.



CHAPTER TWO

Labor





Direct labor & indirect labor.

The human effort required to convert raw materials into a finished product is referred to as labour. Converting materials into finished products necessitates the use of labor.

Labor assists in the conversion of materials into final outputs by operating machines and performing other duties.

There are two types of labor: direct and indirect.

Direct labor

- **Direct labor:** Employees who work directly on the products of a manufacturer.
- **Direct labor cost:** The amount paid by the manufacturer on personnel who are directly involved in the manufacturing process is referred to as "direct labour cost." It can be readily and precisely quantified per unit of production. Direct labour costs can be calculated and allocated to a certain job, process, or product. It is included in the base price.
- Payments provided to workers participating in the construction of a dam, publishing a book, and producing tables are examples of direct labor costs.

Indirect labor

- **Indirect labor:** Labor that helps with the manufacturing process but isn't directly involved in the transformation of raw materials into finished goods. Supervisors of production and purchasing personnel are two examples.
- **Indirect labor cost:** The amount paid by the manufacturer to workers who are not directly involved in the manufacturing process is known as indirect labour cost. The costs of remunerating workers who support direct labour in the completion of manufacturing operations are known as indirect labour costs. On a per-unit-of-output basis, it is impossible to accurately identify and quantify it. It is incurred for a range of cost centres' advantages and is included in overhead expenses..
- Payments to sweepers, cleaners, managers, and accountants are examples of indirect labour costs.

Labor

THE METHODS OF REMUNERATION.

Basically, employee compensation is divided into two categories.

- Payment is based on how much time you spend at work. (time basis)
- □ Payment by results (piecework)

Payment on the basis of time you spend at work (time basis)

The worker is paid hourly, daily, or weekly, and his pay is determined by the amount of time he is engaged rather than his output. The formula for calculating wages is as follows:

WAGES = HOURS WORK X RATE PER HOUR

Payment by results (piecework)

The wage is determined using the formula in a piecework approach:

WAGES = UNIT PRODUCED X RATE OF PAYMENT PER UNIT

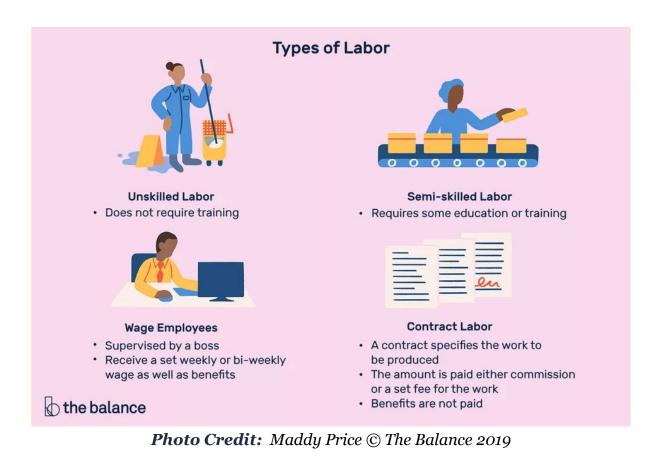
Direct employees are the majority of those who use the piecework method. Each unit generated is compensated at a set rate. The salary of the factory worker are determined by his output rather than the amount of time he spends there.

Example:

Hassan works an 8-hour day at a basic wage rate of RM 4.00. On particular day, he worked 10 hours. If overtime is paid at time-and-a-half, calculate his basic wage and the overtime premium.

Solution to Example:

Basic wage	= 10 hrs x RM 4.00	= RM 40
Overtime Premium	= 2 hrs x RM 4.00 x ½	=4
Total wage		= <u>RM 44</u>
The answers may also	o be worked out in the	following manner:
Ordinary wage	= 8 hrs x RM 4.00	= RM32
Overtime wage	= 2 hrs x RM 4 x 1½	= <u>12</u>
Total wage		= <u>RM44</u>



G G Without labor nothing prospers. **Sophocles**



CHAPTER THREE







Direct & indirect expense

A company's cost of operations in order to make revenue is referred to as an expense. Supplier payments, employee wages, manufacturing leases, and equipment depreciation are all frequent costs.

Expense can be classified into:

- **Direct expense** Expenses that a company may easily associate with a certain "cost object" like a product, department, or project. Those costs can be tracked down and assigned to cost centres or units. Royalties paid and plant depreciation are examples of direct expenses.
- **Indirect expense** Indirect expenses are those that are incurred to operate a firm as a whole or a specific division of a company but cannot be traced to a cost object instantly. All indirect expenditures, with the exception of indirect materials and labour, are referred to as indirect charges. These costs are shared by all cost units or cost centres and aren't tied to a specific task. Rent and rates, as well as lighting and power, are examples of indirect expenses.

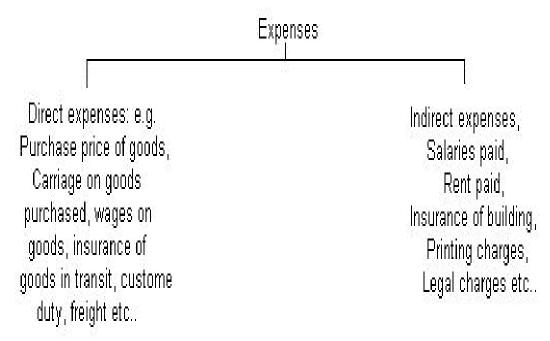
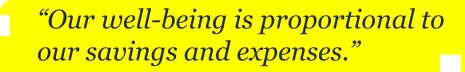


Photo Credit:

http://www.accountingexplanation.com/direct_and_indirect_expenses.JPG



Sunday Adelaja



CHAPTER FOUR

Overhead



Overhead

Manufacturing overhead & non-manufacturing overhead.

The term "overhead" refers to a wide range of indirect charges. Overhead is the costs that are required for a company but cannot be related directly to cost units. Overhead costs therefore don't lead directly to profit generation, but overhead is still necessary as it provides critical support for profit generation.

There are two types of overhead:

- Manufacturing Overhead.
- Non-manufacturing overhead.

Manufacturing overhead

Manufacturing overhead, often known as factory overhead. Other than direct materials and direct labour, all expenses involved in the manufacture of completed things are referred to as indirect costs. Manufacturing overhead includes indirect materials and indirect labour, as well as factory expenses..

Overhead in manufacturing is frequently referred to as factory overhead or production overhead.

The following are some examples of manufacturing overhead costs:

- cost of nails, thread, glue
- supervisor's salary
- rent for manufacturing space, depreciation of factory equipment, factory utilities, and factory supplies
- Managers and supervisors who work in manufacturing plants
- Employees who perform repairs and maintenance at manufacturing facilities.
- Electricity and gas are employed in the production plants.
- a variety of indirect factory supplies, and a lot more

Non - manufacturing overhead

Non-manufacturing costs are expenses incurred outside of the factory or production department. These costs are not necessary for the translation of raw materials into finished goods, but they are necessary to support crucial parts of a company, such as sales and general expenses.

- Selling Expenses also called Selling and Distribution Expenses.
- General Expenses also called General and Administrative Expenses.

Some examples of non-manufacturing overhead expenditures are as follows:

- Advertising expenses, salesperson wages and commissions, storage expenses, shipping and delivery expenses, and customer service expenses are all things to think about.
- Executive pay, administrative salaries, accounting expenses, legal fees, research and development, and other administrative charges.

Overhead

Departmentalization of overhead

The division of the corporation into divisions termed "cost centres" from which expenses are incurred is known as departmentalization of factory overhead. A cost centre is a company division in which the cost centre:

- □ The production department is a division of the corporation that is responsible for manufacturing.
- Service departments are cost centres that help other departments by providing support.

Production and service departments are allocated overhead. The overhead of the service departments is redistributed to the production departments, and the overhead of the production departments is eventually absorbed by the departments' products.

Allocation and apportionment of Overhead

Cost centres, such as departments, are assigned overheads.For assigning production centre expenses to products, an allocation base is chosen.

- □ **Cost allocation-** When a cost can be linked to a specific cost centre or cost unit, it can be assigned to that cost centre or cost unit.
- Cost apportionment- It is impossible to associate a discrete cost item with a cost centre, hence a cost must be distributed among numerous cost centres on some agreed-upon basis. Indirect expenses must be allocated to cost centres in a fair and reasonable manner. Various types of expenses necessitate distinct bases based on their unique qualities.

Allocation and apportionment of Overhead

Primary Distribution

Some overhead expenditures can be directly linked to a certain department or cost centre, and they can be allotted to that department. Some overhead expenditures, however, cannot be recognised and attributed to a specific department. Any department that uses such things must bear the costs. The process of charging expenses in an appropriate proportion to the various cost centres or departments is known as cost apportionment.

The following are the most commonly used apportionment bases:

- □ **Floor area occupied** Lighting and heating, rent and rates, depreciation on the building, building service, fire insurance, and building repairs are all examples of overhead.
- □ **capital values/book value** Plant and machinery depreciation, equipment, buildings, vehicles, building insurance, and plant and machinery upkeep.
- □ **Direct labor hour/machine hour** Remuneration for tools and fixtures, power, and job management.
- □ **Number of employee** canteen costs, accident insurance, medical costs, personnel department costs, supervisory and wage department costs, and welfare costs.
- □ Kilowatt hours/capacity of machinery- power
- □ **Number or material requisition** handling and storage of materials

Allocation and apportionment of Overhead

Secondary Distribution

The overhead expenditures of the service department should be allocated to the manufacturing departments. This is owing to the fact that service departments do not manufacture their own products. Secondary distribution is the reassignment or reapportionment of service department overhead to the production department.

There are two methods of secondary distribution:

- □ **Direct Method** Because of its ease of implementation, this is the most frequent approach for transferring service department costs to production departments. It entails allocating resources to different service departments while ignoring any services supplied by one department to another.
- □ **Continuous Method** The practice of allocating service department overhead is repeated in this approach until the figure becomes irrelevant.

ABSORPTION OF OVERHEAD COSTS

After all the overhead expenditures of the service department have been assigned to the manufacturing departments, the next stage is to distribute factory overhead across various products or jobs. Overhead absorption is the name for this.

Overhead absorption is defined as the allocation of overhead to cost units using a rate that is calculated separately for each cost centre (CIMA).

Method of Absorption.

The following are the generally recognized methods of absorption rates:

Overhead Absorption Rate (OAR) = <u>total overheads of the cost centre for the period</u> total units of base for the period

Allocation and apportionment of Overhead

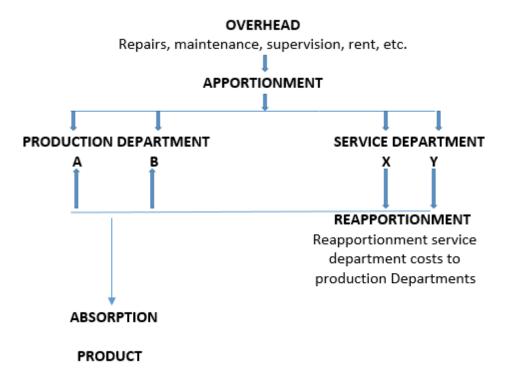




Photo Credit: https://napkinfinance.com/napkin/overhead/

What's the best way to ensure your small business makes a profit? Without a doubt, it's to keep your overhead costs low, and maximize your sales per marketing dollar.

Kevin J. Donaldson.

Exercise

Question 1

Classify the following costs under direct material, indirect material, direct labor or indirect labor

- i. Flour
- ii. Factory worker
- iii. Insurance on factory building
- iv. Manager
- v. Supervisor
- vi. Sales commission
- vii. Rent of factory equipment
- viii. Advertising expenses
- ix. Butter

Exercise

Question 2

From the information given identify the:

- a) Material
- b) Labor
- c) Overhead

Direct material Direct labour Depreciation on factory Production supervisor's salary Indirect labour Factory utilities Sales commission Sales supervisor's salaries Depreciation on factory equipment Administrative cost Indirect material

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COST ACCOUNTING

This book covers 4 basic concepts of cost accounting.

Key feature

• present topics in an approachable manner to aid understanding of basic cost accounting for non-accounting students.

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