ACCT2019 - Accounting Analysis for Management Decisions

Week 1: Introduction to Management Accounting

Management Accounting

- Measures, analyses and reports financial and non-financial info that helps managers make decisions to fulfil organisational goals.
- Management acctg need not be GAAP compliant.
- Managers use said info to:
    - Develop, communicate and implement strategies.
    - Coordinate products design, production and marketing decisions and evaluate a company's performance.

Cost Accounting: Method for measuring the cost of a project, process or thing. It includes both financial and non-financial info and is used for both financial and management accounting.

Financial Accounting vs Management Accounting

- Financial Accounting: Prepares reports most frequently used by decision makers external to the organisation.
- Management Accounting: Prepares reports most frequently used by decision makers internal to the organisation.

Strategic Decisions & The Management Accountant

- Strategy specifies how an organisation matches its own capabilities with opportunities in the marketplace.
- There are two broad strategies: cost leadership and product differentiation.
- Strategic cost management describes cost management that specifically focuses on strategic issues.
- Management acctg info helps managers formulate strategy by answering questions such as the following:
    - Who are our most important customers, and what critical capability do we have to be competitive and deliver value to our customers?
    - What is the bargaining power of our customers?
    - What is the bargaining power of our suppliers?
    - What substitute products exist in the marketplace, and how do they differ from our product in terms of features, price, cost and quality?
    - Will adequate cash be available to fund the strategy or will additional funds need to be raised?

Value-Chain & Supply-Chain Analysis & Key Success Factors

- Creating Value: An important part of planning and implementing strategy.
- Value: Usefulness a customer gains from a company's product of service. The entire customer experience determines the value a customer derives from a product.
- Value Chain: Sequence of bz functions by which a product is made progressively more useful to customers. The value chain consists of the following: R&D, design of products and processes, production, marketing (inc sales), distribution, CS.

Decision-Making, Planning & Control: Five-Step Decision-Making Process

1. Identify the problem/uncertainties.
2. Obtain information.
3. Make predictions about the future.
4. Make decisions by choosing among alternatives.
5. Implement the decision, evaluate performance and learn.

Planning & Control Systems: Planning

1. Selecting an organisation's goals and strategies.
2. Predicting results under various alternative ways of achieving those goals.
3. Deciding how to attain the desired goals and
4. Communicating the goals and ways to achieve them to the entire organisation.

Management accountants serve as bz partners in these planning activities because they understand the key success factors and what creates value.

Planning & Control Systems: Control

1. Taking actions that implement the planning decisions,
2. Evaluating past performance
3. Providing feedback and learning to help future decision making.

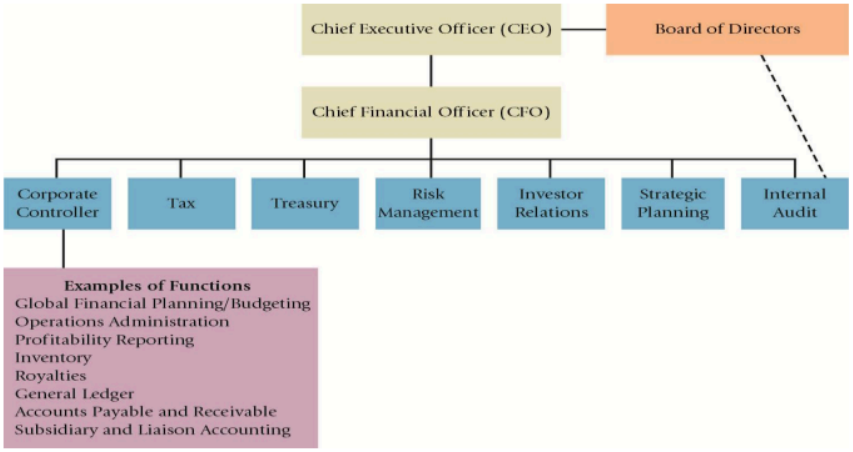
The most important planning tool when implementing a strategy is a budget, the quantitative expression of a proposed plan of action by management and is an aid to coordinating what needs to be done to execute that plan.

Line & Staff Relationships

- Line management is directly responsible for achieving the goals of the organisation.

- Staff management provides advice, support and assistance to line management.

Organisational Structure & The Management Accountant



Skills & Characteristics of Successful Management Accountants (beyond analytical abilities)
- They must work well in cross-functional teams and as a business partner.
- Promote fact-based analysis and make tough-minded, critical judgments without being adversarial.
- Lead and motivate ppl to change and be innovative.
- Communicate clearly, openly and candidly.
- Have high integrity.

Basic Cost Terminology
- Cost: A sacrificed or forgone resource to achieve a specific objective.
- Cost Object: Anything for which a cost measurement is desired.
- Cost Accumulation: The collection of cost data in an organised way by means of an accounting system.
- Cost Driver: Variable, e.g. level of activity or volume, that causally affects costs over a given time span.
- Cost Assignment: A general term encompassing gathering accumulated costs to a cost object in two ways:
    - Tracing costs with a direct relationship to the cost object.
    - Allocating accumulated costs with an indirect relationship to a cost object.

Direct & Indirect Costs
- Direct Costs: CAN be conveniently and economically traced (tracked) to a cost object.
- Indirect Costs: CANNOT be conveniently or economically traced (tracked to a cost object.
- Instead of being traced, these costs are allocated to a cost object rationally and systematically.

Factors Affecting Direct/Indirect Cost Classifications
- Materiality of the cost in question.
- The available info-gathering technology.
- Design of operations.

*Specific cost may be both a DC of one cost object and an IDC of another cost object. The classification depends on the cost object that one is trying to determine the cost of.

Cost Behaviour Patterns: Variable Costs & Fixed Costs
- Variable costs are constant on a per-unit basis, regardless of activity. That is, if a product takes 5 kgs of material each, it stays the same per unit regardless if one, ten or a thousand units are produced.
- Fixed costs per unit change inversely with the level of production. As more units are produced, the same fixed cost is spread over more and more units, reducing the cost per unit.

Variable, Fixed & Mixed Costs
- Variable Costs: Increase (in total) as activity levels increase. Remain constant (on a per unit basis).
- Fixed Costs: Decrease (on a per unit basis) as activity levels increase. Remain constant (in total) for a relevant range.
- Mixed Costs: Part fixed/part variable.

Inventoriable Costs vs Period Costs
- Inventoriable Costs: All costs of a product that are considered assets in a company's balance sheet when the costs are incurred and that are expensed as COGS only when the product is sold. For manufacturing companies, all manufacturing costs are inventoriable costs.
- Period Costs: All costs in the income statement other than COGS. They are treated as expenses of the acctg period in which they are incurred.

Types of Inventory in Manufacturing

- Direct Materials: Resources in-stock and available for use.
- Work-in-Process (or Progress): Goods partially worked on but not yet completed, abbreviated as WIP.
- Finished Goods: Goods completed but not yet sold.

*Merchandising-sector companies hold only one type of inventory: Merchandise inventory.

Commonly Used Classifications of Manufacturing Costs
- Direct Materials: Acquisition costs of all material that'll become part of the cost object.
- Direct Labour: Compensation of all manufacturing labor that can be traced to the cost object.
- Indirect Manufacturing: All manufacturing costs that are related to the cost object but cannot be traced to that cost object in an economically feasible way.

Cost Flows
- Cost of Goods Manufactured and COGS section of income statement are acctg representations of actual flow of costs through production system.
- Note: Inventoriable costs go through balance sheet accs of DM, WIP, and FG inventory before entering COGS in the income-statement.

TB Question 2.31

1. Prepare the cost of goods manufactured for the year 2019.

	£	£
Beginning work in process inventory	0	
Add: Direct materials used:		
Beginning materials inventory	10,000	
Purchases of direct materials	33,000	
Available for use	43,000	
Less: Ending materials inventory	(9,500)	
Direct materials used		?
Direct labour		25,000
Manufacturing overhead:		
Rent on plant	8,000	
Utilities for plant	1,100	
Plant janitorial services	300	9,400
Total manufacturing costs		?
Less: Ending work in process		(3,500)
Cost of goods manufactured		?

2. If the company produced 20,000 bottles of water in 2019, calculate the company's unit product cost for the year.

Unit Product Cost = Cost of Goods Manufactured / Total Units Produced = $64,400 / $20,000 = $3.22 / unit

Week 2: Cost Behaviour

Cost Function Basics

Cost Behaviour Patterns: $y = a + bX$
- Fixed costs, variable costs, mixed costs, stepped costs

Fixed Costs – Total vs Per Unit
- In Total:
  - Stays the same within the relevant range
  - Do not change when volume changes
- Per Unit (Average Fixed Cost):
  - Decrease as volume increases
  - Increase as volume decreases
  - Same total fixed cost – spread over more or fewer units

Variable Costs – Total vs Per Unit
- Variable costs also behave differently in total vs per unit terms.
- In Total:
  - Change in direct proportion to volume.
  - More activity → higher total variable cost.
- Per Unit (Average Variable Cost):
  - Stay the same
  - Constant cost per unit within the relevant range
  - Same cost per unit – multiplied by more or fewer units.

Relevant Range: Behaviour pattern holds only within usual range of operating activity.

Causality: Cost driver must cause cost (depends on user's objective).

- Indicators of Causality: Economic logic, statistical association, controllability.
- Cost Estimation Methods: Industrial engineering, conference, account analysis, quantitative.

Six Steps in Quantitative Analysis

1. Determine cost object.
2. Establish cost drivers.
3. Get data.
4. Plot data.
5. Estimate cost behaviour (e.g. run regression).
6. Evaluate results (e.g. examine reg'n stats).

Data Issues: Outliers, missing data, allocations (allocated values are constructed rather than directly observed – treat them with caution in analysis).

- Diagnosing Data Issues: Residuals, trends, discuss with ppl doing the work whether the results make sense.

Regression Analysis for Cost Estimation

- Regression analysis is superior to high-low.
- Easily done with Excel's LINEST function.
- LINEST estimates the cost function: y = a + bX where a = fixed cost and b = variable cost per unit.
- LINEST stats option reports R^2 (goodness of fit). And other stats beyond the scope of our unit.

Key Takeaways

- Cost estimates are valid only within a normal range and with the right cost driver.
- Regression is superior, but data quality and assumptions matter.
- Check with the people doing the work at the start and end of the analysis.

Question 10.4: High correlation between two variables means that one is the cause and the other is the effect. Do you agree? Explain.

Week 3: Inventory Costing

Inventory Costing Choices

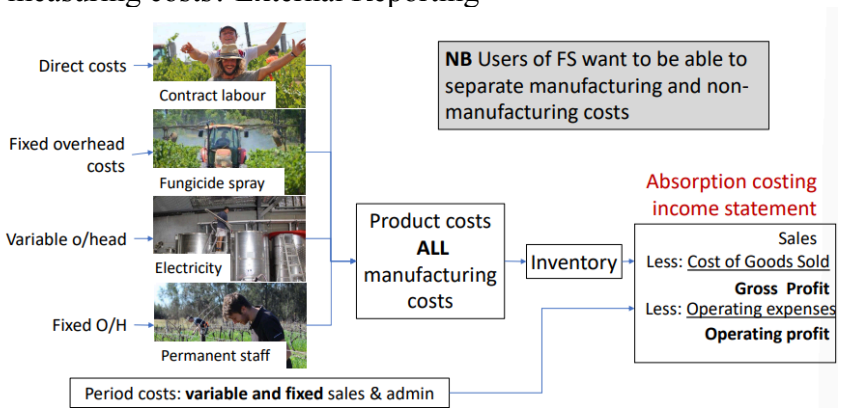
- Variable Costing: Method of inventory costing where all variable manufacturing costs (direct and indirect) are included as inventoriable costs.
- Absorption Costing: Method of inventory costing in which all variable and fixed manuf costs are included as inventoriable costs. Inventory 'absorbs' all manufacturing costs.
- Throughput Costing: A method of inventory costing in which only direct materials are included as inventoriable costs. All other costs are expensed.

Inventory Costing: Differences in Income

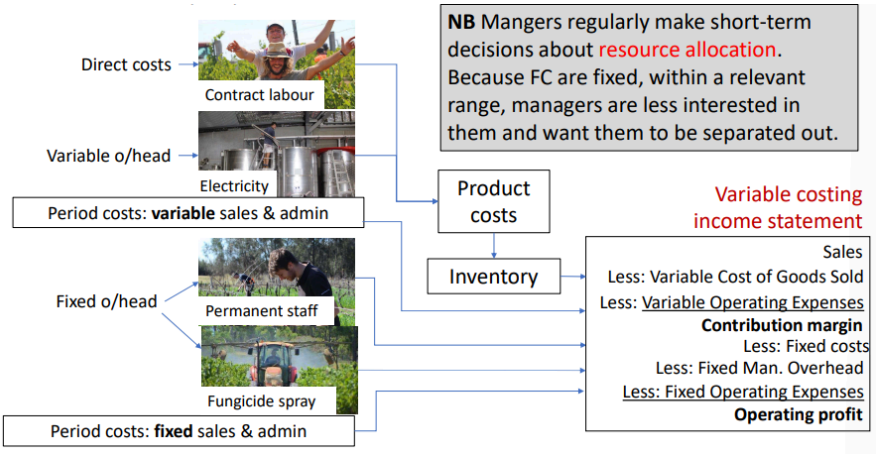
1. Operating income will differ between absorption and variable costing if inventory levels change because of the difference in acctg for fixed manuf costs.
2. The amt of the diff represents the amt of fixed manuf costs capitalised as inventory under absorption costing and expensed as a period cost under variable costing.

Absorption & Variable Costing

For what purpose am I measuring costs? External Reporting



For what purpose am I measuring costs? Internal Purposes



Comparing Income Statements: Worked Example

- **The following data pertain to Glebe Ltd:**

Finished goods	Year 1	Year 2	Total
Inventory Units			
Beginning Inventory	0	2,000	0
Produced	10,000	10,000	20,000
Sold	8,000	12,000	20,000
Ending Inventory	2,000	0	0

The following information is on a per unit basis:

Sales price:	$71.00
Variable manufacturing costs:	
Direct materials:	$4.00
Direct manufacturing labour:	$21.00
Indirect manufacturing costs:	$24.00
Fixed manufacturing costs (per unit)	$4.50

Total fixed prod'n costs are $45,000 at a budgeted capacity of 10,000 units (PDFOHR= $45,000/10,000 = $4.50).

Fixed non-manufacturing costs: $30,000 per year.

Variable non-manufacturing costs: $2.00 per unit sold.

Unit product cost is determined as follows:

	Absorption Costing	Variable Costing
Direct materials, direct labour, and variable mfg. overhead	$ 49	$ 49
Fixed mfg. Overhead rate/unit ($45,000 ÷ 10,000 units)	4.50	-
Unit product cost	$53.50	$ 49

Under absorption costing, all production costs, variable and fixed, are included when determining unit product cost. Under variable costing, only the variable production costs are included in product costs.

Absorption Costing (Left) & Variable Costing (Right)

	Year 1	Year 2
Sales (8,000; 12,000 × $71)	568,000	$ 852,000
Less cost of goods sold: (8000; 12000 X $53.50)	$ 428,000	642,000
Gross margin	140,000	210,000
Less selling & admin. exp.		
Variable (8,000; 12000 × $2)	$ 16,000	24,000
Fixed	30,000	30,000
Net operating income	94,000	$ 156,000

	Year 1	Year 2
Sales (8,000; 12000 × $71)	568,000	$ 852,000
Less variable expenses:		
Variable COGS (8000; 12000 x $49)	392,000	588,000
Variable selling & administrative expenses (8,000; 12000 × $2)	16,000	24,000
Contribution margin	160,000	240,000
Less fixed expenses:		
Manufacturing overhead	$ 45,000	45,000
Selling & administrative expenses	30,000	30,000
Net operating income	85,000	$ 165,000

Absorption vs Variable Costing

	Cost of Goods Sold	Ending Inventory	Period Expense	Total
Absorption costing				
Variable mfg. costs	$ 392,000	$ 98,000	$ -	$ 490,000
Fixed mfg. costs	36,000	9,000	-	45,000
	$ 428,000	$ 107,000	$ -	$ 530,000
Variable costing				
Variable mfg. costs	$ 392,000	$ 98,000	$ -	$ 490,000
Fixed mfg. costs	-		45,000	45,000
	$ 200,000	$ 98,000	$ 45,000	$ 530,000