Management Accounting - General

What is Management Accounting?

-The process of supplying the managers and employees in an organization with relevant information, both financial and nonfinancial, for making decisions, allocating resources, and monitoring, evaluating, and rewarding performance

-Demand for accuracy of costing information has increased

-Make sure benefits exceed the costs for managerial accounting – cost-benefit analysis

-Management account has the following attributes:

-It is both retrospective, providing feedback about past operations, and also prospective, incorporating forecasts and estimates about future events. For both retrospective reporting and prospective planning, management accounting uses both financial and nonfinancial measures

-It is oriented to meeting the decision-making needs of employees and managers inside the organization. Ideally, a good management accounting system can become a source of competitive advantage for a company

-It has no prescribed forms or rules about its content, how the content is to be developed, and how the content is to be presented. All of these get determined by managers' judgments and decisions about what best meets their needs for actionable information and is defined entirely by the needs of managers using the information. No standard setter or regulator specifically influences the design of management accounting information and systems

Strategy

-*Strategy* is about an organization making choices about what it will do and, equally important, about what it will not do

-Selecting a strategy forces managers to make choices about what markets the organization should target and how the organization will compete in those markets

The Plan-Do-Check-Act (PDCA) Cycle

Plan

-Identify objectives

-Choose a course of action to achieve the desired objectives

Do

-Implement the chosen course of action

Check

-Monitor (measure) the results of the implemented course of action

-Evaluate the results by comparing them with results expected when the plan was developed

Act

-Maintain the current direction if results are acceptable. Otherwise return to the plan stage to develop and implement an alternative course of action

<u>Behavioural Implications of Management Accounting Information</u>

-Information is never neutral

-People react when they are being measured

The Balanced Scorecard & Strategy Map

The Balanced Scorecard

-The Balanced Scorecard measures organizational performance across four different but linked perspectives that are derived from the organizations mission, vision, and strategy

-*Financial* – How is success measured by our shareholders?

-*Customer* – How do we create value for our customers?

-*Process* – At which processes must we excel to meet our customer and shareholder expectation?

-*Learning & Growth* – What employee capabilities, information systems, and organizational capabilities do we need to continually improve our processes and customer relationships?

-The financial and customer measures represent what the company wants to accomplish with its two most important external constituents: shareholders and customers

-The process perspective describes "how" the strategy will be executed

-Measures for learning and growth arise from asking "how": How will employees obtain the skills and knowledge to be able to improve the quality and cycle times of the company's production processes?

-The learning and growth perspective uses a measure of employees' capabilities to predict improvements in process quality and cycle times

Strategy

-Any good strategy should have two essential components:

1. A clear statement of the company's advantage in the competitive marketplace, what it does or intends to do differently, better, or uniquely compared to competitors, and
2. The scope for the strategy, where the company intends to compete most aggressively, either for targeted customer segments, technologies employed, geographic locations served, or produce line breadth

Balanced Scorecard Objectives

-Increase revenues through expanded sales to existing customers (financial)

-Offer complete solutions to our targeted customers (customer)

-Achieve excellence in order fulfillment through continuous improvements (process)

-Align employee incentives and rewards with the strategy (learning & growth)

Perspective	Objectives	Measures
Financial	-Increase shareholder value	-Return on equity
Customer	-Retain customers -Deliver products on time -Offer competitive prices	-Percentage of repeat customers -Growth in customers' sales -Percentage of deliveries made on time -Prices compared to competitors
Process	-Reduce process cycle times -Improve process quality	-Percentage improvement in cycle times -Product defect rates -Process yield improvement
Learning & growth	-Develop employees' process improvement skills	-Percentage of employees trained and certified in process improvement capabilities

Strategy Map

-Companies use strategy maps to illustrate the causal relationships among the strategic objectives across the four balanced scorecard perspectives

Financial Perspective

-Contains objectives and measurements that represent the ultimate success measures for profit-seeking companies

-Financial performance measures, such as operating income and return on investment, indicate whether the company's strategy and its implementation are increasing shareholder value

-Improves through two basic approaches: productivity improvements and revenue growth

-Companies reduce costs by lowering direct and indirect expenses

Customer Perspective

-Describes how a company intends to attract, retain, and deepen relationships with targeted customers by differentiating itself from competitors

-Objectives should include achieving customer satisfaction and loyalty, acquiring new customers, increasing market share, and enhancing customer profitability

-Companies like Wal-Mart and McDonalds use the "lowest total cost" buying experience in their category

-Companies like Apple, Armani and Mercedes use "product leadership"

-IBM who offers customers a one-stop buying experience use "complete customer solutions"

Process Perspective

-Create and deliver the value proposition for customers

-Operations management processes: Improve the cost, quality and cycle times of production processes, and improve asset utilization

-Customer management processes: Acquire new customers while satisfying existing customers, and generating growth

-Innovation processes: Develop innovative products and services, and be sure to not take away any 'value added'

Learning and Growth Perspective

-Three learning objectives: human resources, information technology, organizational culture and alignment

-Developing employee motivation, sending employees away to learn (courses) – companies are currently cutting back on this because the economy is bad

Using Costs in Decision Making

Pricing

-Organizations use cost information in the pricing decision in two ways

-In markets where the organization faces a market-determined price, the organization will use product cost information to decide whether its cost structure will allow it to compete profitably

-*Cost-plus pricing* – marking up on total/variable cost

-There can be an across the board or an individual mark up on a company's product

Product Planning

-*Target costing* – based around prediction and estimates to make a reasonable mark-up

Budgeting

-Projects or forecasts costs for various levels of production and sales activity

Variable Costs

-One that increases proportionally with changes in the activity level of some variable

-Because there are many possible types of variables, for convenience, a common term used for a variable that causes a cost is *cost driver* (amount of goods produced)

Variable cost = Variable cost per unit of the cost driver x Cost driver units

-The convention is to use variable cost to refer to the total variable cost and variable cost per unit as the variable cost per unit of the cost driver

-Variable cost per unit of the cost driver is the *total variable costs*

-Cost driver units is the *number of units produced*

-*Variable overhead* is costs that go into making product, but they aren't significant (Ex. Nails on a rocking chair), so small that you can't figure out how much it costs per chair

-Depreciation can be a variable cost, but if its straight-line amortization (which we assume) is fixed

Fixed Costs

-A cost that does not vary in the short run with a specified activity

-Salaries are in fixed cost because you can't lay the people off (managers)

-Fixed costs are often called *capacity-related costs*

Total cost = Variable cost + Fixed cost

Cost-Volume-Profit Analysis

-Uses the concepts of variable and fixed costs to identify the profit associated with various levels of activity

Profit = Revenue – Total costs

Equations

-The difference between total revenue and total variable cost is called the *contribution margin*

-The *contribution margin per unit* is the contribution that each unit makes to covering fixed costs and providing a profit

-The *contribution margin ratio* is the ratio contribution margin per unit to selling price per unit

Contribution margin = Sales – variable costs

Profit = Unit sales x (Price per unit – Variable cost per unit) – Fixed cost

{We set profit =0, to solve for break-even units}

Units needed to be sold = <u>target profit + fixed cost</u>
contribution margin per unit

Target profit = Contribution margin per unit x Required unit sales – Fixed cost

Incremental profit = Incremental contribution margin – Incremental cost

The Multiproduct Firm

Profit = Product 1 contribution margin x product 1 sales + product 2 contribution margin x product 2 sales – fixed costs

-The *breakeven point* is found when the profit is 0
-Need sales mix of 2 products (Ex. 80% kitchen chairs, 20% rocking chairs)
-Fixed cost needs to be covered by contribution margin
-Bundle approach – assumes we sell chairs in bundles of 100
-The bundle approach (shown above is the simplest)

Mixed Costs

-A cost that has a fixed component and a variable component
-Ex. Your cell phone bill may have a fixed component that you pay each month, independent of how many calls you make, and a variable component that depends on the quantity of calls you make

Step Variable Costs

-Increases in steps as quantity increases
-"Costs at a certain point in production, go up to $60 000" – because after hiring a certain number of employees you need to hire another manager with a salary of $60 000

Incremental Costs

-The cost of the next unit of production and is similar to the economist's notion of marginal cost
-Generally defined as the variable cost of a unit of production

Sunk Costs

-A cost that results from a previous commitment and cannot be recovered
-Ex. Depreciation
-Sunk costs should not be considered in subsequent decisions because they cannot be changed
-Sunk cost phenomenon, 'Concorde effect', 'Concorde fallacy'

Relevant Cost

-A cost that will change as a result of some decision
-Ex. You purchased a concert ticket for $100 weeks ago. If you go to the concert you will spend $70 on refreshments and $50 on parking. You are thinking you don't want to go and spend the $120, and the $100 is a sunk cost. The relevant cost is $120
-Relevant costs can be controlled and irrelevant costs can't be controlled

Opportunity Cost

-Opportunity cost – what you give up when you choose something else

→What you forego by accepting one offer and not the other

Avoidable Cost

-A cost that can be avoided by undertaking some course of action

-The most obvious avoidable costs are variable costs

-Relevant cost

Attributable Cost

-Costs that can be directly allocated → know where/what they go to

Make-or-buy – The Outsourcing Decision

-Deciding whether to contract out for a product or service is known as the make-or-buy decision

-Keep relevant costs in mind

-Pay attention to what you are spending/saving by outsourcing

-We do what is better based on dollars and cents

-The costs that should be considered:

Internal costs avoided	External costs incurred
-All variable costs -Any avoidable fixed costs such as the cost of supervisory personnel who would be laid off or machinery that would be sold	-The cost of purchasing the part -Any transportation costs -Any other costs involved in dealing with the outside supplier, ordering the product, and receiving and inspecting it

Manufacturing Costs

-Manufacturing costs are classified into three groups: direct materials, direct labour, and manufacturing overhead

-Direct materials include materials that can be traced easily to a unit of output and are of significant economic consequence to the final product

-Direct labor costs are those labour costs that can be traced easily to the creation of a unit of output

-Manufacturing overhead costs are all costs incurred by a manufacturing facility that are not direct materials costs or direct labor costs

The Decision to Drop a Product

-Organizations abandon a product when it is unprofitable either because revenues no longer exceed costs or because another organization offers to buy the rights to the product at a favourable price

-Buddy's Bar and Grill – p. 83-85

Accumulating & Assigning Costs to Products

Cost Management Systems

-Cost management systems measure the costs of products, services, and customers
-Historically, two cost management systems, job order costing and process costing have been used to cost products and services

Manufacturing Organizations

-Manufacturing costs are usually classified into three groups: direct materials, direct labour and manufacturing overhead
-When manufacturing is completed, work is transferred to finished goods inventory

Retail Organizations

-As goods are purchased, their cost is entered into an account that accumulates the cost of merchandise inventory in the store

Service Organizations

-In service organizations the major cost item is usually employee pay

Cost Terms

-Cost object- anything for which a cost is computed – Ex. Activities, products, etc.
-Consumable/flexible resource – its cost depends on the amount of resource that is used – Ex. Wood in a furniture factory
-Capacity-related resources – its cost depends on the amount of resource capacity that is acquired and not on how much of the capacity is used
-Cost pools – a pool of costs that we use to allocate costs

Cost Classification

Resource Characteristic	Resource Name	Cost Name	Usual Classification
Consumed by the production process. The total cost of the resource is proportional to the amount of the resource consumed. Examples include: newsprint used to make a paper, and grain used to make breakfast cereal.	Consumable resource	Variable cost	Direct cost
Provides capacity that is used by the production process. The total cost of the resource is proportional to the amount of the resource that is acquired not how much is used. Examples include: the salary paid to a lawyer, and depreciation on factory equipment	Capacity-related resources	Fixed cost	Indirect cost

-Direct cost – you can indefinitely accost this to product X – traceable costs
-Indirect costs need to be allocated to products, but this can prove to be difficult

Handling Indirect Costs in a Manufacturing Environment

-If the cost is indirect, it is assigned to an indirect cost pool
-Some organizations create another category called variable overhead, which includes costs for such

items as machine electricity usage, minor materials grouped as indirect materials and machine supplies
-Organizations use a separate account to record applied indirect costs (indirect costs allocated as production occurs during the year)
-We need to allocate overhead costs to products
-*Consumable resources* – Ex. Wood to make chairs = direct costs, and variable costs
-*We call the cost of consumable resources variable costs and almost all variable costs are direct costs. We call the cost of capacity resources fixed costs and almost all fixed costs are indirect costs*
-*Variable overhead* – Ex. Electricity usage, wood glue → involved in production, but hard to affix a cost
-*Fixed overhead* - Ex. Heating, lighting, etc.
-Once the cost driver is chosen, cost analysts divide expected indirect factory costs by the number of cost driver units to compute what is called the predetermined indirect cost rate

$$\textbf{predetermined indirect cost rate} = \frac{\textbf{estimated total factory indirect cost}}{\textbf{practical capacity in cost driver units}}$$

-Numerator = variable and fixed overheads
-Company sets this at the beginning of the year – Ex. For machines, labour → applying overhead to production
-Practical capacity takes into account the fact that people get sick, take holidays, etc.
-Costing distortions can arise when indirect cost pools include costs that have different cost drivers

Using Planned Capacity Cost

-Cost analysts use the planned, not the actual, level of capacity-related costs in computing the cost driver rate, for many reasons:

1. The annual actual capacity-related costs are not known until the end of the accounting period, and cost analysts want to compute costs for cost objects such as customers, products, and jobs before the year end
2. Using planned rather than actual capacity-related costs set a benchmark against which to compare actual capacity-related costs at the end of the accounting period

Reconciling Actual and Applied Capacity Costs

-To manage a system of allocating indirect costs using a cost driver that is based on planned costs, cost analysts use two cost pools for each capacity-related cost
-One pool accumulates the actual capacity-related cost incurred during the period
-The second pool accumulates the capacity-related cost that has been applied to production

Job Order Costing

-An approach to costing that estimates costs for specific customer orders because the orders vary from customer to customer
-Ex. What I did at work in the summer

Process-Costing

-An approach to costing that is used when all products are identical
-The total cost of all products is determined by adding up all of the direct and indirect costs used to produce the products and then dividing by the number of products produced to get a cost per unit
-Process costing uses mainly machines to do the work
-Direct labour is a conversion cost

Activity-Based Cost Systems

Traditional Manufacturing Costing Systems

-Product costing systems are important because product volume and mix explain a large percentage of the costs that companies incur

-Product costing systems start by assigning direct labour and direct materials costs to products

-Cost accountants perform the following calculations:

1. Calculate the cost per unit of each material used by a product and the cost per hour of each type of direct labour that processes the product
2. For each unit of product made, determine the quantity of each type of material used and the quantity required for each type of labour
3. For each labour and material type, multiply the cost per unit by the quantities used per product as shown:

Materials cost/unit = Quantity of materials/unit of output x Cost per materials unit

Labour cost/unit = Quantity of labour hours/unit of output x Cost per labour hour

4. Add up all of the individual materials and labour costs to obtain the total labour and materials cost of each product unit

Activity-Based Costing

-Time-driven activity-based costing (TDABC) – a new ABC variant that is simple and more powerful since it requires estimating only two parameters: the cost of supplying resource capacity and the quantity of capacity consumed by each transaction, product, and customer. It enables a much simpler ABC model to capture even highly complex operations through the use of time equations

-Requires estimating two parameters:

1. First identify all costs incurred to supply that resource. Second, identify the capacity supplied by that resource.
2. An estimate of how much of each resource's capacity is used by the activities performed to produce the various products and services

Cost of using resource *I* by product *j* = Capacity cost rate of resource *i* x Quantity of capacity of resource *i* used by product *j*

Calculating Product Cost and Profitability

-Calculate the costs for each product by multiplying the resource usage times by each resource's capacity cost rate

-Cost systems that allocate overhead to produces based on the direct labour hours of each product produced will lead to the over costing of high-volume products and under costing of low-volume products when the following two situations exist:

1. Indirect and support expenses are high, especially when they exceed the cost of the allocation base itself
2. Product diversity if high: the plant produces both high-volume and low-volume products, standard and custom products, and complex and simple product

The Cost of Unused Capacity

-The cost of unused capacity should not be assigned to products produced or customers served during a period

-The cost of unused capacity remains someone's or some department's responsibility

-Usually you can assign the cost of unused capacity after analyzing the decision that authorized the level of capacity supplied
-Such an assignment is done on a lump-sum basis; it will not be assigned to individual units of products
-If the unused capacity relates to a particular product line then the cost of unused capacity is assigned to that product line, where the demand failed to materialize
-The lump-sum assignment of unused capacity costs provides feedback to managers on their supply and demand decisions

Fixed Costs and Variable Costs in Activity-Based Cost Systems

-Committed costs can change/vary through the following process:
1. Demands for the capacity resource change, either because of changes in the quantity of activities performed or because of changes in the efficiency of performing activities
2. Managers make decisions to change the supply of committed resources, either up or down, to meet the new level of demand for the activities performed by these resources
-Companies facing shortages increase their committed costs by spending more to increase the supply of resources to perform work, which is why many indirect costs increase over time
-Demands for indirect and support resources also can decline, either intentionally through managerial actions, such as imposing minimum order sizes and reducing setup times, or because of competitive or economy-wide forces that lead to declines in sales
-After unused capacity has been created, committed costs will vary downward if and only if managers actively reduce the supply of unused resources

Updating the ABC Model

-Needs to be updated as needed to keep current with changes in the company's operations
-Managers can also easily update the capacity cost rates
-Capacity cost rates also change when the denominator, practical capacity, changes
-Time-driven ABC accommodates the complexity of real-world operations with time equations
-The time equation allows the details of particular orders to be captured simply and incorporated within the model
-The data for the time equations – order types, method of shipment, and all other production characteristics – are typically already in the company's enterprise resource planning system where the order has been entered

Service Companies

-Service companies are ideal candidates for ABC
-An activity-based cost system for a service company would be developed in the same way as that for a manufacturing company