Toward Business Literacy: Accounting Outlines

Managerial Accounting

A managerial accounting system must serve several purposes.

- Must allocate decision making authority over company's resources
- Furnish information to support decision-making
- Generate information to evaluate and reward performance

- Managers deal with operations of a business and internal information
  - Uses information to improve performance and meet objectives
  - Information for managers does not need to follow GAAP, as does financial accounting information for outside users

Accounting Cycles

- **Purchase and Payments**: purchase materials and supplies; pay A/P
- **Payroll Cycle**: schedule employees for production with regular pay
- **Production cycle**: collect materials, labor and overhead into work in process; costs are transferred to finished goods inventory until they are sold
- **Sales/Receipts cycle**: sales recorded when goods are sold; finished goods costs are transferred to cost of goods sold; customers are billed and receipts recorded when cash or receivables are collected

Types of Costs

- A cost is a sacrifice or giving up of resources to meet an objective.
- A direct cost is a cost that is specific and exclusive for an objective.
- An indirect cost can't be identified with an objective economically.
  - It can be allocated based on an output measure (cost driver).

Manufacturing or Product Costs

- **Direct Materials** (DM) are raw materials and parts directly traceable and attached to the product.
- **Direct Labor** (DL) are wages and other payroll of employees that work to convert materials into finished goods and are directly traceable.
- **Manufacturing Overhead** (MOH) are costs indirectly traceable.
- **Prime costs**: Direct materials and direct labor
- **Conversion costs**: Direct labor and manufacturing overhead
- Unallocated costs are period costs with no relationship at all to an objective.
- Period costs are costs that occur in a time period, unrelated to inventory
  - Expensed in the time period they are incurred

Non-manufacturing or Period Costs

- Selling costs are costs associated with selling the product.
  - Sales salaries and commission, advertising, depreciation expense
- General and Admin. costs are to sustain central management and home office, incorporate the business
  - Buildings, offices, equipment, salaries not related to manufacturing
- Other period costs include income taxes and interest expense.

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Budgets

- There are three elements in the budget process
    - Planning and budgeting before production
    - Overseeing production and operations during the month
    - Month end actual←→budget analysis; review results
- An operations budget deals with production and costs over coming month
    - Sales forecast: Sales department forecasts demand
    - Production/purchases schedule
        - With forecasted demand, this shows how much to make/buy
        - In terms of units, not money
        - Labor, machinery and materials for the units to be needed
    - Manufacturing cost budget
        - Costs of inputs mandated by the production schedule
    - Cost of goods sold and ending inventory
        - Total costs to produce inventory at the budgeted costs
        - Ending inventory needed on hand for next month
    - Operating expenses are other period costs associated with production
- A capital budget deals with asset acquisition (land, machines, buildings)
- A cash budget includes cash collections on sales and receivables less cash disbursements on purchases and payables and operating expense outlays.
- Static budgets assume a set level of production (good for government)
- Flexible budgets allow for different levels of sales and production
    - A spreadsheet that can change a quantity is helpful

Management Controls

- Cost, profit, service and investment center
    - **Cost centers**: Allocation of costs depends on responsibility for costs and what center benefits.
    - **Profit centers**: Produce revenue and incur expenses
    - **Service centers**: Provide service to other centers (including other service centers); allocate on a step down method
    - **Investment centers**: Receive capital to expand assets
    - A cost driver comes from the function the cost is related to
- Responsibility: controllable and uncontrollable
    - Management is evaluated based on costs immediate to their decisions (evaluate sales staff by sales volume, manager by overall sales and overhead costs, regional manager by advertising, shipping costs from arrangements negotiated, overall company by marketing strategy

ROI and residual income

- Net Income / Investment is the return on investment (**ROI**)
- Operating income less (cost of capital % x adjusted average invested capital) gives **residual income.**

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Inventories, Cost Flows and Allocation

Materials inventory (M) holds raw materials and parts
Work in process inventory (WIP) holds all partially completed goods
Finished goods inventory (FG) holds all completed goods ready for sale
Cost Flows: Costs are accumulated and "flow" through accounts by transfer as goods go from one stage to the next.

Direct Materials + Direct Labor + Manufacturing Overhead → Work in Progress
These accounts are debited and credited as usual for asset/expense.

Cost Drivers

- Fixed costs are not affected by changes in activity level.
- Variable costs are tied to changes in activity level.
  - A cost driver is a phenomenon such as direct labor hours or units produced that the particular variable cost is most correlated with.
  - Step costs: change abruptly at intervals (fixed over a range, then change when the activity moves out of that range)
- Mixed costs include both variable and fixed costs.
  - This is a linear cost formula: $Y = VX + F$
    - V is the variable cost per unit and F is the fixed costs

Overhead

- The large number of separate costs related to manufacturing accumulated and allocated to product costs using an overhead application rate

$$\frac{\text{Total Annual Overhead Cost}}{\text{Overhead Cost Driver}}$$

  - An overhead cost driver is something related to production and reflects the nature of the cost, like labor hours, machine hours, units produced
    - A reasonable cause and effect relationship
  - Some businesses have service departments such as maintenance or computer processing that use step-based costing
    - Costs of service departments are allocated to one another if they use each other's services, then allocated to product departments
- Traditional costing combines all indirect costs and assigns them to products using one cost driver (plant-wide allocation method)
- Cost types are pooled and allocated on a driver relevant to each pool
- **Activity based costing** (ABC) allocates indirect costs based on activity
  - Identify activities that consume resources and assign costs to them
  - Identify cost drivers associated with the activities
  - Compute the cost rate per unit of the cost driver
  - Assign costs to products
    - Cost driver rate x units consumed by product
  - 2 stages: assigning costs to activities; allocate costs to product

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Types of Costing

Job Order Costing

- For work that is broken down into jobs and each job is tracked separately
- Each job or batch is significantly different from other jobs or batches.
- Labor and material are entered on a job ticket and overhead is added.

Process Costing

- For a large quantity of identical products that are mass-produced
- DM and DL are assigned to batches with overhead allocation.

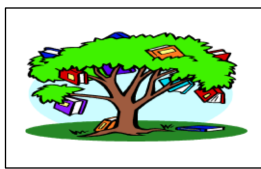
Absorption vs. Variable Costing

- Absorption or Full Costing includes those costs associated with the product itself.
    - DM, DL and VMOH and FMOH (all associated with manufacturing)
    - All selling and administrative are not included in inventory.
- Variable costing is for managerial accounting only.
    - Variable costs are those costs that vary with volume.
        - DM, DL, VMOH and VSGA are variable costs
        - Include parts, packaging, labor, sales commissions
    - All fixed costs (FMOH and FSGA) are in the fixed category
        - Total fixed costs are same apart from # of units
        - Unit fixed costs goes down as production goes up.
        - Includes managers and executives salaries, insurance, advertising, taxes, maintenance, utilities, depreciation
    - Unit variable costs stay the same, but total variable costs vary with number of units
- A Relevant Range is the # of units that can be normally produced or sold
    - Vary due to seasonal demand (sales) and factory capacity (production)
    - Going beyond the relevant range requires additional resources.
- Mixed costs have a variable & a fixed portion that can be separated using the **high-low method.**
    - Find variable cost per unit and total fixed costs from a range of data
    - Use the equation of a slope of a line to find m variable cost per unit.

<u>High point total cost- low point total cost</u>	<u>Change in costs</u>
High point # units- Low point # units	Change in activity

The above gives the slope of the cost line (m)→ the variable cost per unit (Y=mx +b)

- Take either the high or low point (X is # of units, Y is total cost) and plug in the slope found above to solve for the fixed costs (b).



Variances

Standard Costing and Variance Analysis

- A **Standard cost** is what the cost should be (based on industry standards).
- A production budget uses standard costs and estimated production levels.
- At the end of the month, a variance report is used to compare costs and quantities.
    - A **favorable** variance means that actual costs are less than budgeted.
    - An **unfavorable** variance is where actual costs exceed budgeted.
    - A price variance shows the cost difference in actual and budgeted prices, with the same actual quantity.
    - A quantity variance holds the standard price the same, and shows how actual quantity differs with standard input for actual output.

Variances and Standard Costs are entered using journal entries

- Direct Materials
    - Lower price variance means it costs less per unit to buy materials.
    - If goods were inferior, it may take more above standard to produce, creating an unfavorable quantity variance.
- Direct Labor
    - One may pay workers less (wage variance), but will lead to inefficient work.

Overhead variances

- A **variable overhead efficiency variance** shows the difference in actual cost-driver activity and the standard amount for actual output (times the standard variable price)
- A **variable overhead spending variance** shows the difference between what was actually spent vs. the amount budgeted for actual cost-driver activity
- A **fixed overhead variance** does not rely on inputs; variance is price only
    - A **volume variance** also occurs when production levels change in a full-absorption cost accounting system.
- Reasons for variance include errors, changes, problems, poor planning.

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Cost-Volume-Profit, Contribution Margin and Equivalent Units

Cost, Volume, Profit

- Total costs = Variable costs + fixed costs
  - Y = mx + b (equation of a line)
    - X is the volume of goods

Contribution Margin

- Selling price per unit less variable cost per unit = CM per unit
- CM per unit x number of units sold = Total CM
- To find **break even in units**: $\frac{\text{Total Fixed Costs}}{\text{CM per unit}}$
  - Set total contribution margin = fixed cost
  - Break even in $: Break even units x sales price/unit
- Contribution margin percentage: $\frac{\text{Total Contribution Margin}}{\text{Total Sales}}$
  - To find break even sales $ volume: $\frac{\text{Total fixed Costs}}{\text{CM percentage}}$

Equivalent Units of Production

- Used in process accounting systems
- For end of the month production reports
- Example: it takes $100 in costs to produce one lawn mower
  - If we have 4 lawn mowers ¼ complete, this is the same as one mower completed, with $100 in costs
  - 100 units that are 40% complete= 40 equivalent units complete
- Costs are assigned to WIP pools based on equivalent units multiplied by costs to produce one unit.

By-Products

- These are relatively minor outputs accounted for by one of two methods:
  - The NRV from sale of by-products is deducted from joint costs.
  - Proceeds of by-products are treated as other revenue.

Spoilage

- Costs are allocated to products if normal, or expensed if abnormal

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Cost Analysis and Decision Making

Incremental Analysis

- Neglect **sunk costs** (past cash outlays): irrelevant
  - Costs or revenue that stay the same regardless are also irrelevant.
- Focus on **relevant costs** and profit potential.
  - Relevant costs are the costs that will change if decision is made.
  - Also include any cash inflows or revenues that depend on decision.
- **Opportunity costs** represent the benefit through income, gain or expense reduction that could be realized through another course of action.
- Out of pocket costs are small costs that are also relevant to the decision.

Types of Decisions

- **Special sales order c**onsiders: capacity, expenses saved, special costs
  Additional Revenue Add
  Additional Costs Subtract
  Fixed Costs-change Add/Subtract
  - A positive financial result is O.K, but consider:
    - Special sales orders can haunt a company when others want special sales
- **Limited resource** decisions
  - Constraints on production limit what company can make
  - Should favor the one whose CM per limiting factor is greatest
- **Make or buy**
  - Consider: costs to purchase, savings in fixed and variable costs
  - Set up with Make on left and Buy on the Right (Total and Per Unit for each)
  - Sometimes if a company buys a component, this frees up factory space for rent or other use and is relevant
- **Joint product- proceed or sell**
  - Costs up to split off are joint costs allocated to both
    - Net realizable value is used as basis for allocation
  - Separable costs go to particular categories
- **Delete or add** product or department
  - Consider: save or add variable costs, changes in fixed costs, addition to sales volume
  - Fixed costs will be either avoidable or unavoidable
    - Avoidable will not continue if an ongoing operation is changed or deleted
    - Unavoidable costs will continue regardless (common costs)

  <u>Total before change</u> <u>Effect of decision</u> <u>Total after decision</u>

From Managerial Accounting by Garrison
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