

Learning Objectives

BUS 211 Fall 2014

Topic 1: Introduction

- Not applicable

Topic 2: Accounting Information for Decision Making and Control

- State and describe each of the 4 items in the planning and control cycle
- Apply the planning and control cycle to a real-world chain of events (like Sony) by describing what steps decision-makers likely took and when (e.g. slide 5 of session 2)
- State and describe each of the 4 steps of the BSS decision framework
- Classify benefits and direct costs in a setting where a decision-maker must choose among options
- Compute the value, opportunity cost, and economic profit of each of a set of options, and be able to describe the economic meaning of each of these terms
- Discuss how unquantifiable or intangible information about benefits and costs might impact a set of decision options
- Incorporate information about willingness to pay into a decision
- Identify goals that individuals and organizations are likely to have in a given setting, as well as specific incentives and/or monitoring information that can help align the goals of the two parties

Topic 3: Costs, Benefits, and Relevance

- Define relevance (in a decision-making context)
 - Identify information that is relevant and irrelevant to a specific decision
- Identify and define sunk costs
- Recognize that people often ignore opportunity costs and fixate on sunk costs
- Explain why controllability of costs and benefits changes with decision horizon
- Identify variable and fixed costs and benefits, in particular, with respect to an activity measure.
- Classify a cost as fixed, variable, semivariable, or step, given past cost behavior
- Classify a cost as direct or indirect
 - Use the idea of materiality to judge whether a direct cost might be classified as indirect (e.g. oils and lubricants example, seasonings in food)

Topic 4: Cost flows

1. Describe the role of the matching principle in the product and period cost distinction – identify which costs were incurred to generate which revenues.
2. Describe the flow of resources into and out of organizations, and distinguish between a cost (resource consumed by a product) and an expense (a cost formally recognized on an income statement because it's either associated with a revenue (product cost) or because it occurred during the current period (period cost)).
3. Identify product and period costs for service firms, merchandising firms, and manufacturing firms.
4. Classify a firm as service, merchandising, or manufacturing based on a description of its business activities,
 - o Recognize a service firm as one that cannot store its final output.
5. Trace the entire flow of costs for a manufacturing firm. Classify manufacturing costs as direct material, direct labor, manufacturing overhead, work-in-process, cost of goods manufactured, finished goods, or cost of goods sold, or as a period cost
 - o Draw cost flow relationships for a manufacturing firm.
6. Given an account from a ledger (e.g. raw material inventory), solve for a missing value given the other values
 - o Solve complex cost flow problems using the previous skill
7. Prepare a GAAP income statement given information from ledger accounts.
8. Explain why cost allocation is needed, and for which types of costs it is used
9. Define a cost driver as an activity measure that is correlated with the generation of indirect costs.
 - o Understand that the quality of a cost driver affects the accuracy of costs
10. Compute overhead allocation rates for 1- and 2-pool systems, given different cost drivers.
 - o Be able to define a rate as total cost in a pool divided by total driver usage.
11. Compute fully allocated product costs given direct costs and cost allocation bases.
12. Explain why a given cost allocation method affects the distribution of total overhead costs, but not the total itself.
13. Explain why it is not possible to know true costs of a firm's products and services

Topic 5: Cost Structure

1. Prepare a contribution margin statement and be able to infer one from a GAAP financial statement
 - o Perform the reverse transformation, from GAAP to contribution margin
2. Use the account classification method to identify fixed and variable costs
3. Given information on costs, predict the change in total cost due to changes in activity levels using the account classification method
4. Use the high-low method to estimate fixed and variable costs

5. Given information on costs, use the high-low method to predict cost behavior (i.e. write an equation specifying total cost as a function of an activity level) and then predict the change in total cost due to a proposed change in the activity level.
6. Use regression analysis to estimate fixed and variable costs
7. Construct contribution margin statements for operating segments
 - Be able to identify traceable and common fixed costs, given financial statements
8. Given regression output, identify/be able to state
 - Which independent variables are significant (using the p-values)
 - How much of the variation in the dependent variable the model explains (using R^2)
 - The meaning of the intercept and variable coefficients, and their predicted effects on the dependent variable given hypothetical changes to the independent variables
 - The meaning of the sign of the coefficients
 - Whether the entire regression is significant (using the F-statistic and F-value)
9. Given the output of a regression, be able to write an equation (the model) and use it to predict future values of the dependent variable given expected future values of the independent variable
10. Comment on the appropriateness of a cost model using the concepts of relevant range and outliers.

Topic 6: CVP Analysis

1. Derive the formula for breakeven volume starting with $Profit = Revenue - Total Cost$.
 - a. Compute any of the elements in the breakeven relationship given knowledge of the remaining elements.
 - b. Define and compute breakeven revenue
2. Explain why it is called contribution margin
3. Draw a CVP graph and identify all features of interest to CVP (slopes, intercepts, distances between lines, breakeven point)
4. Explain how changes in any of the elements of the breakeven relationship affect breakeven volume or revenue.
 - a. Make judgments on the riskiness of a business venture given the above.
5. Compute the number of units required to achieve a target profit. The target profit can be either before-tax or after-tax.
6. Identify the best option in a CVP analysis if price changes with volume
7. Define operating leverage and comment on the advantages and disadvantages of high operating leverage.
 - a. Estimate the effect of changes in demand on operating leverage
 - b. Comment on the sensitivity of profits to volume given operating leverage.
8. Define and compute margin of safety
9. Perform Multi-Product CVP analysis

- a. Compute the volume of multiple products needed to break even
 - b. Apply the assumption of constant ratio of volumes of products.
 - c. Define and apply the concepts of weighted unit contribution margin and contribution margin ratio.
10. State and comment on the limitations of CVP analysis

Topic 7: Short-term Decision Making When Capacity \neq Demand

1. Define capacity as maximum volume of activity that can be sustained at a point in time (or over some period of time)
2. Distinguish between short- and long-run scenarios. The former are those in which capacity can be modeled as fixed or nearly fixed.
3. Explain why capacity choice is a long-term decision, and give examples of capacity purchases that are lumpy.
4. Describe why the mismatch between capacity and demand is a major business problem
5. List mechanisms for dealing with the mismatch between capacity and demand
6. Recognize opportunity cost as the construct that underlies all problems involving excess capacity or demand.
7. Analyze and solve problems involving special orders
 - a. When facing excess capacity
 - b. When facing excess demand
8. Analyze and solve problems involving make/buy decisions
 - a. When facing excess capacity
 - b. When facing excess demand
9. Recognize situations in which a knapsack problem is appropriate
10. Solve simple knapsack problems using the greedy approximation algorithm
11. Discuss the possible consequences of long-term considerations in short-term decisions
12. Recognize joint processes
13. Determine whether a joint process is profitable in its entirety
14. Determine whether further processing of a joint output is profit-maximizing
15. Allocate joint costs using *any* allocation basis.
16. Define net realizable value (NRV) and allocate joint costs based on it
17. Discuss why allocation of joint costs can distort product mix decisions.
 - a. Recognize that allocation using NRV is the exception.

Topic 8: Cost Allocation

1. Explain why capacity costs are more controllable in the long run than in the short run.
2. Explain how cost allocation is used to recover capacity cost
3. Solve pricing problems that have a long-run decision and a short-run decision
4. Explain how cost allocation is used to estimate future capacity costs, and be able to solve problems about this.

5. Describe a good cost driver and a poor one, and explain the effect of cost driver quality on estimates of future capacity costs.
 - a. Compute estimates of future capacity costs given different cost drivers or allocation methods.
6. Define a cost-plus pricing scheme and compute revenue from a cost-plus contract, given cost information.
7. Describe the incentives and likely actions taken by parties to a contract when cost allocation can be used strategically.
8. Given a contractual arrangement, compute profits given different allocation methods.
9. Explain how cost allocations can affect behavior.
10. Define variable costing and create variable costing income statements
11. Explain what differs between variable and absorption costing
12. Explain why variable and absorption costing can lead to different profit and inventory valuation
13. Compute profit and ending inventory value under variable and absorption costing
14. Reconcile variable and absorption costing income statements
15. Explain why managers might be tempted to overproduce under absorption costing, but the incentive does not exist under variable costing.
16. Explain why profit will, at some point in the future, be lower if a manager overproduces under absorption costing.

Topic 9: Activity-Based Costing

1. Define the term traditional cost system.
2. Explain why the need for sophisticated cost systems arises in practice.
3. Compute, the overhead allocation rates for multi-pool cost systems, given requisite information about cost drivers and total costs.
 - a. Allocate costs to products for these systems
4. Compute the total reported cost of a product / service / job, given direct costs and information about the cost system.
5. Explain why reported cost of products changes as the cost system design changes.
6. Explain why it is not possible to know the true cost of products.
7. Discuss the appropriateness of a given cost driver.
8. Discuss the advantages and disadvantages of increasing cost system sophistication.
9. Compute overhead allocation rates and the cost of excess capacity when using practical capacity as the denominator.
10. List possible actions management might take when viewing a report on excess capacity.
11. List the four levels of the cost hierarchy.
12. Solve cost allocation problems using a mix of cost drivers from different levels of the cost hierarchy.
13. Classify a potential cost driver as unit, batch, product, or facility level.
14. Discuss why the exclusive use of unit-level cost drivers can distort reported product costs.

Topic 10: The Winner's Curse

1. Define the winner's curse.
2. List the conditions under which it is likely to occur, and conditions that tend to exacerbate it.
3. Explain intuitively why the winner's curse can occur, even if estimates are unbiased, and why it gets worse as the number of bidders increase.
4. Reason through bidding situations; in particular, conditional on winning, what is the likelihood of overpaying?
5. Solve simple merger and acquisition problems where the bidder has less information than the seller, and in which the value of the asset will increase under the bidder's ownership.
6. Discuss bidding strategies. Why bid at all? If you bid, how should you adjust your bid, given your estimate?
7. Explain intuitively why your bid should be adjusted downward, and why you need a greater adjustment as the number of bidders increases.
8. Compute the maximum value of an asset that follows a uniform distribution, given an estimate. Compute the maximum bid in that case.
9. Describe the relationship between the winner's curse and cost accounting.

Topic 11: Budgeting

Budgeting I

1. Describe how budgets are used in planning, coordination, and control decisions.
2. Trace the flow of forecasted numbers from revenue to net income, including forecasts for materials, labor, variable and fixed overhead, and sales and administrative costs.
3. Solve problems in which inventory numbers are given and you need to compute units to be produced, materials needed, labor needed, overhead needed, etc., given sales forecasts.
4. Solve problems in which you need to prepare a budget for any of the aforementioned categories (revenue, labor, etc.)
5. Prepare a cash budget, given information about revenues, timing of collections, and expected bad debt expense.
6. Describe the central tension in budgeting.
7. Describe sandbagging and smoothing and why these are likely to result from the central tension in budgeting.

Budgeting II

1. Explain how workers' information, decision rights, and performance measurement (responsibility) are related.
2. Define each of the common types of responsibility centers (cost, profit, investment), the typical performance measures for each, and when each is appropriate.
 - a. Given a description of a department at a company, classify it as one of the common types of responsibility centers.

3. Determine the assumptions behind a budget.
 - a. Give reasons why actual results are likely to deviate from budgetary assumptions.
4. Define a variance
5. Compute a flexible budget
6. Compute total profit, sales volume, and flexible budget variances, and identify whether a variance is favorable or unfavorable
7. Explain the economic meaning of total profit, sales volume, and flexible budget variances.

Budgeting III

1. Explain the meaning of total profit, flexible budget, sales volume, sales price, fixed cost spending, material price, material quantity / efficiency, labor rate, labor quantity / efficiency variances.
 - a. Identify whether each of these is favorable or unfavorable
2. Compute a sales price variance
3. Compute a fixed cost spending variance
4. Compute a variable cost variance (e.g. material, labor), and decompose it into:
 - a. A price variance
 - b. A quantity variance
5. For variable cost variances, recognize that budgeted quantities are quantities of the input, not the firm's final output, and that the quantity to be used is derived from the flexible budget.
6. Generate hypotheses that explain a pattern of variances. For example, which variances are a common result of a price cut?
 - a. Be able to do the reverse. Given a managerial action (e.g. buying a cheaper raw material), predict likely variances that might result.
7. Discuss why nonfinancial performance measures can supplement traditional financial performance measures.

Topic 12: Performance Pay and Incentives

1. Define piece rate.
2. List alternatives to piece rate pay.
3. Discuss possible effects of piece rate pay motivation / effort, turnover, sorting, and unmeasured dimensions of performance.
4. Given a work situation, list likely uncontrollable factors that might affect a worker's performance.
5. Assuming a worker is paid a piece rate, discuss the effect of controllability on risk in the worker's pay and on the worker's motivation.
6. Define sorting and identify which types of workers are likely to choose a given pay scheme.
7. Identify situations in which piece rate pay is likely to have positive effects.

Topic 13: Transfer Pricing

1. Define a transfer price.
2. Discuss how divisions of a company have different profit/loss statements.
3. In the absence of any tax effects or synergies, explain how a transfer price does not affect the profit of the entire company, but does affect the profit of individual divisions.
4. List common uses of transfer prices (e.g. product costing, divisional performance measurement).
5. List common methods of setting transfer prices (e.g. market-based, cost-based, etc.).
6. Compute the profit of individual divisions in simple transfer pricing scenarios where there are no tax effects or synergies.
7. Explain why transfer prices *should* reflect the opportunity costs of the divisions that transact.
 - a. For the upstream (selling) division, explain why capacity usage affects the minimum transfer price it should charge.
 - i. In problems, compute or state the minimum transfer price when the division (1) is at capacity or (2) has excess capacity.
 - b. For the downstream (buying) division, compute or state the maximum transfer price the division would be willing to accept, given other relevant information such as market prices.
8. Explain why a trade should only occur if the seller receives his/her minimum price and the buyer is only paying his/her maximum price.
9. Determine minimum/maximum transfer prices when one or both divisions realize cost savings from transacting with the other division.
10. Determine minimum/maximum transfer prices when there are simple tax effects.
Determine the profit-maximizing transfer price for the entire company.