

ACC406 Tip Sheet

Definitions

Direct Cost: a cost that can be easily allocated to a certain object.

Variable Cost (VC): a cost that changes in direct relation to output (output increases – VC increases)

Fixed Cost (FC): a cost that does not change regardless of output changes.

Cost of Goods Sold (COGS): the sum of total product costs of goods sold during a period.

$COGS = BEG \text{ finished goods inventory} + \text{cost of goods manufactured} - END \text{ finished goods inventory}$

Costs of Goods Manufactured: cumulative product costs of goods completed during a certain fiscal period.

$COGM = \text{direct materials used in production} + \text{direct labour used in production} + \text{manufacturing overhead costs used in production} + BEG \text{ WIP inventory} - END \text{ WIP inventory}$

Conversion cost: direct labour + manufacturing overhead

Prime cost: direct materials + direct labour

Direct Labour (DL): labour that is directly attributable to the goods and service that are being produced by a firm.

Direct Material (DM): It is the type of material that is used to produce a certain good or service.

$\text{Direct materials used in production} = BEG \text{ inventory of materials} + \text{purchases} - END \text{ inventory of materials}$

Overhead (OH): It refers to costs that incurred in the manufacturing process, not including direct materials and direct labour

Total product cost: direct materials + direct labour + manufacturing overhead

$\text{Unit Cost} = \text{Total Cost} / \# \text{ of Units (or \# of Services, depending on the type of business the company offers)}$

$\text{Unit cost} = DM + DL + OH$

Chapter 3

Mixed Cost: Costs that have include both fixed costs and variable costs.

Committed Fixed Costs: Fixed costs that can't be easily changed.

High - Low Method: a process through which FC and VC are identified in mixed costs by using the high and low data points.

1) $\text{Variable Rate} = (\text{High Point Cost} - \text{Low Point Cost}) / (\text{High Point Output} - \text{Low Point Output})$

2) $FC = \text{Total Cost at High Point} - (\text{Variable Rate} \times \text{Output at High Point})$

OR

$FC = \text{Total Cost at Low Point} - (\text{Variable Rate} \times \text{Output at Low Point})$

Do not use High Point and Low Point points in the same formula at this step!

3) Input the found FC and Variable Rate (VR) into the following formula:

$\text{Total Cost} = \text{Total FC} + \text{Total VC} = \text{Total FC} + \text{Output} \times \text{VR}$

Chapter 4

Income statement:

Sales
(VC)
= Contribution margin
(Fixed costs)
= Operating income

Break-even point: Total revenue = Total cost, which means that the profits are zero (the company makes enough money to cover the costs, but not enough to produce profit)

If Total CM = Total Fixed cost, the company *breaks even*.

VC ratio = VC per unit/Price

CM ratio = (Sales - VC)/Price

Break-even in # = FC/CM per unit

Break-even in \$ = FC/CM ratio

units to **Target Income (TI)** = (FC + TI)/CM per unit

\$ to TI = (FC + TI)/ (CM ratio)

Margin of safety is units sold (or # earned) above the break-even volume.

Margin of safety = Sales in units – BE units

Margin of safety = Sales – BE (\$)

Operating leverage is a mix of FC to VC

Higher the FC to the amount of VC, higher the operating leverage;

Higher the operating leverage, the larger the effect on operating income when sales change;

- 1) Degree of operating leverage (DOL) = CM/Operating income
- 2) % change in operating leverage = DOL x % change in sales
- 3) Expected operating income = Original operating income + (% change x Original operating income)

Chapter 5

Job order costing: firms operating in job-order industries produce a wide-variety services or products that are quite distinct from each other. Examples: construction, furniture making, medical services, automobile repair, customized and built-to-order products, etc.

Process costing: firms producing identical products or services can use a process-costing accounting system. Examples: food, cement, etc. The key feature is that the cost of one unit is identical to the cost of another (the products are homogeneous)

Actual costing: *actual* costs of DM, DL, and OH are used to determine unit cost. Can be hard to track, because many OH costs often fluctuate during the year due to uneven production

Standard costing: standard DM & DL, OH applied using *predetermined* rate.

Normal costing: *actual* DM & DL, OH applied using *predetermined* OH rate. Virtually used by all firms. OH must be estimated and applied to output.

How to calculate the predetermined OH rate/plantwide OH rate

- 1) $\text{OH rate} = \frac{\text{Estimated annual OH}}{\text{Estimated annual activity level}}$
(Both are estimated because OH rate is calculated at the beginning of the year for product costing purposes)
- 2) $\text{Applied OH} = \text{Predetermined OH rate} \times \text{Activity level}$
- 3) $\text{Overhead variance} = \text{Applied overhead} - \text{Actual overhead}$
 $\text{Actual OH} \neq \text{Applied OH}$
Actual > Applied → Underapplied OH, add to COGS
Actual < Applied → Overapplied OH, subtract from COGS

Departmental OH rate: estimated OH for a department/its activity level.

Departmental OH rate = $\frac{\text{Estimated departmental overhead}}{\text{Estimated departmental activity level}}$

Chapter 7

Activity Based Costing (ABC) aims to attain cost accuracy by considering several activities that are collectively conducted to produce a certain good or a service. ABC assigns OH costs to *categories* related to the nature of the activity that drives these costs.

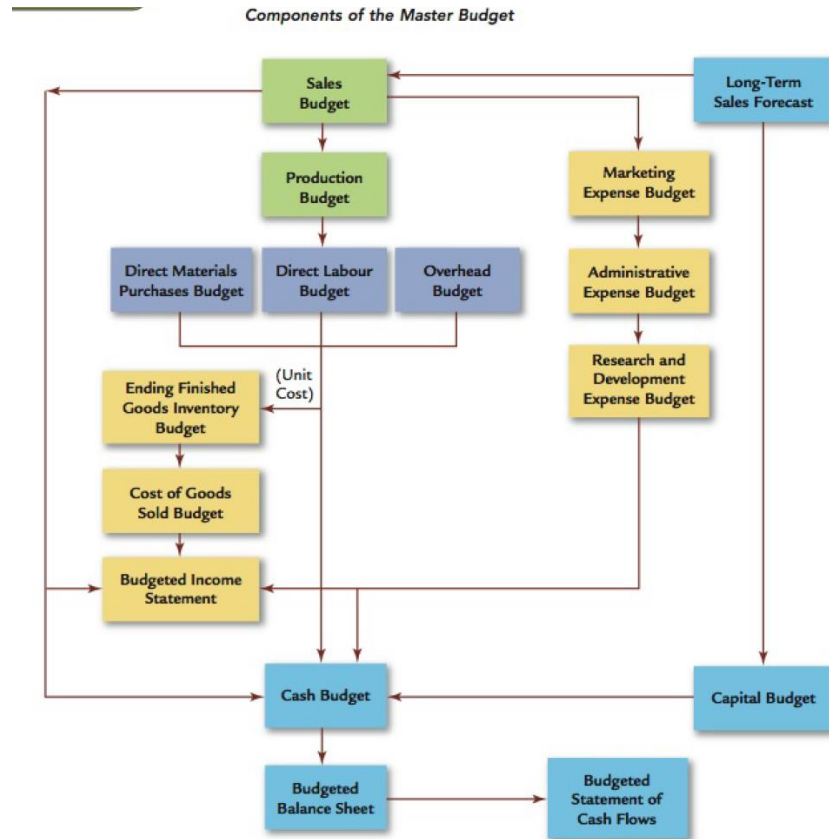
For ABC, you must determine how much it costs to perform *each* activity.

Value-added activities are the ones necessary to remain in business. Non-value-added activities are all activities other than those that are absolutely essential to remain in business.

Chapter 9

Budgets help to plan ahead and exercise control by comparing what actually happened to what was expected. Budgets are the key component of planning.

Master budget is a comprehensive financial plan for the organization, typically prepared for one year (fiscal year). It contains operational and financial budgets. Components of the master budget is shown in the diagram below:



Operational budgets describe the income-generating activities of the firm.

The order in which the operating budgets are typically prepared:

- 1) Sales budget: develops a sales forecast
- 2) Production budget: shows how many units must be produced to meet sales needs and satisfy ending inventory requirements
Units to be produced = expected unit sales + units in END inventory – units in BEG inventory
- 3) DM purchased budget: shows the amount and costs of raw materials to be purchased to produce the needed number of units
DM purchased = DM needed + desired DM in END inventory – DM in BEG inventory
- 4) DL budget: shows the total DLH and the DL cost needed for the number of units in the production budget
- 5) OH budget: shows the expected cost of all production costs other than DM and DL
- 6) Ending Finished Goods Inventory budget
- 7) COGS budget
- 8) Selling and Administrative expenses budget

Financial budget details the inflows and outflows of cash and the overall financial position of the company

- 1) Cash budget
- 2) Budgeted balance sheet
- 3) Budget for capital expenditures

Chapters 10, 11

Variance:

Standard (planned cost) = Standard Quantity * Standard Price = SQ * SP

Actual (actual cost) = Actual Quantity * Actual Price = AQ * AP

Price variance = AQ * AP - AQ * SP = AQ * (AP - SP)

Usage variance = AQ * SP - SQ * SP = SP * (AQ - SQ)

Total variance = AQ * AP - SQ * SP

Price variance is favourable if AP < SP (unfavourable if AP > SP)

Usage variance is favourable if AQ < SQ (unfavourable if AQ > SQ)

Analysis of variance:

- 1) Decide whether variance is significant
- 2) Find out why it occurred
- 3) Materials variances are added to COGS if they are unfavourable
Materials variances are subtracted from COGS if they are favourable

Variance analysis for direct materials

Materials price variance = MPV = (AP - SP) x AQ

Materials usage variance = MUV = (AQ - SQ) x SP

→ SQ = unit quantity standard x actual output

Variance analysis for direct labour

Labour rate variance = LRV = (AR - SR) x AH

Labour efficiency variances = LEV = (AH - SH) x SR

→ SH = unit labour standard x actual output

Total labour variance = (AR x AH) - (SR x SH)

Variance analysis for overhead costs

OH variance = Actual OH - Applied OH

OH variance can be separated into variable and fixed.

1. Variable Overhead

Variable overhead spending variance = (AVOR - SVOR) x AH

Variable overhead efficiency variance = (AH - SH) x SVOR

2. Fixed Overhead

Fixed overhead spending variance = actual FOH - budgeted FOH

Fixed overhead volume variance = budgeted FOH - applied FOH