

Cost Accounting

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Chp 1 Info. for decision making

Value Creation in Organizations

Goal - To achieve maximum value

Value Chain - The set of activities that transforms raw ~~material~~ resources into the goods + services end users purchase + consume. The entire process of producing + selling + consuming something.

Value-Added Activities: are those in the chain performed that customers perceive adds utility to the goods or services they purchase.

Start at Chap 2

Chap 2

Cost - A sacrifice of resources. (Term used for managerial purposes)

Expense - A cost charged against revenue in an accounting period, (only use ~~this~~ this term for external reporting)

2 Major Categories of Cost

• Outlay Cost

• Opportunity Cost

The forgone benefit that could have been

realized, (what ~~u~~ you could've got) from the best alternative use of a resource. ~~Whatsoever else you could've bought, & did.~~

↓
A past, present or future cash outflow

Operating Profits: The excess of operating revenues over the operating costs incurred to generate those revenues.

Income Statement for 3 diff. ~~Industr~~ Organizations that sell:

① Sells a Service

② A product that it ^{acquire} ~~require~~ from another organization (Retailer)

③ A product that it builds using materials from ~~an~~ another organization (Manufacturer)

Service Organizations: Facts

- Provides customers an intangible product
- Most significant cost category: Labor Cost
- Costs that are not part of services billable to clients are included in Marketing & Admin. costs. * Distinction is based on nature of work *

Retail & Wholesale Companies: Facts

- They sell but don't MAKE a tangible product
- The category added to income statement is: Cost of Goods Sold to track the cost of tangible goods they buy & sell.

COGS Statement

Req. Inv.

Cost of Goods Purchased -
Cost of Goods Available for Sale -
Less Cost of goods in ending inventory -
Cost of goods sold -

Cost of Goods Sold - Includes only the actual cost of goods that are sold but does not include the costs required to sell them.

Manufacturing Company Facts:

- Most complicated income statement
- Product Cost: Those cost assigned to units of production & recognized (expense) when the product is sold. And follow product thru ^{inventory}
- Distinguishes costs ~~in~~ based on when the costs are recognized as expenses on financial statements (Manufacturing ~~costs~~)

✓ Period Costs : (Non manufacturing costs) include all other costs + are expensed as they are incurred

2 Types of Product Cost

- Direct
- Indirect



Direct Manufacturing Costs - Those product cost that can be identified with units at relatively low costs.

Indirect Manufacturing Cost : All other product cost. Ex) Light Bulb - The glass in a lightbulb = direct cost. The depreciation on lightbulb manuf. plant is an indirect cost.

Chap 3 Self Notes

Fundamentals of cost-volume-Profit Analysis

(CVP) analysis - An understanding of the relations among revenues, costs, volume & profit. The impact of their decisions on profit.

Profit Equation - Simple relation among total revenue, total cost, and operating profit.

$$\text{Profit} = \text{Tot. Rev} - \text{Tot Cost}$$

$$\text{Tot. Rev.} = \text{Price (units of output)}^{\text{produced + sold}}$$

$$TR = PX$$

X = units ~~of~~ of output

P = price

TR = Tot. Rev.

~~Total Cost = (variable cost per unit $\times$ X + FC~~

$$\text{Total Cost} = (\text{variable cost per unit} \times \text{output}) + \text{F.C.}$$

$$TC = VX + F$$

So:

$$\text{Profit} = (\text{Price} - \text{vari. cost}) \times \text{units of output} - \text{Fixed Cost}$$

$$= (P - V)X - F$$

~~unit~~

~~Total~~ Contribution margin - Difference between the sales price and variable cost per unit.

$$\text{Total CM} = \text{unit CM} \times \text{output}$$

$$(P - V)X$$

* The amount that contributes to covering fixed cost and providing operating profits

Chap. 7 Job Costing Self Notes

Predetermined Rate - Is calculated at beg. of accounting period. It is the estimated factory Overhead for the coming year divided by the estimated activity of the allocation base for the year.

$$\text{Predetermined Overhead Rate} = \frac{\text{Estimated F.O.}}{\text{Budgeted Activity Base}}$$

Application of Manufacturing Cost to jobs

When job is complete, we apply F. Overhead by multiply the ~~budgeted activity~~ actual budgeted activity by the predetermined overhead rate.

$$\frac{\text{Applied Overhead}}{\text{Actual Budgeted Activity}} \times \text{Predetermined Overhead}$$

Over- and Underapplied Overhead

• Manufacturing Overhead Control Account - To record manufacturing overhead cost (Debit Balance) What's actually incurred.

Applied Manufacturing Overhead : Used to apply overhead to work in process. (Credit Balance) What you applied to jobs

Underapplied Overhead - Occurs when applied overhead is less than the amount in the Manufacturing Overhead Control account.

Overapplied Overhead - The opposite of ~~an~~

underapplied. Overhead applied is more than actual overhead incurred (Control acct)

Writing off Over-or Underapplied Overhead

Since both accounts applied + control overhead are temp. accts. When they are closed + have either over- or underapplied amounts

The over/underapplied amounts are charged to cost of goods sold ~~if overapplied~~

- If overapplied COGS is credited
- If underapplied COGS is debited

Using Normal, Actual, + standard Costing

Normal Costing* - Cost of job determined by actual direct material + labor cost plus overhead applied using a predetermined rate and an actual allocation Base

Actual Cost - Cost of job determined by actual direct material + labor cost plus overhead applied using an actual overhead rate + an actual allocation base.

Standard Cost - Cost of job is determined by standard (budgeted) direct material + labor cost plus overhead applied using a predetermined overhead rate + a standard allocation base

Cost Accounting Chap. 7 Self Notes Contd

Allocating Over- or Underapplied Overhead:

- To prorate or allocate in some way to the various accounts that contain the cost of the products manufactured during the period.

- WIP Work in Process
- Finished Goods
- COGS

- Take the percentage of ^{over/under applied OH} each account balance from applied overhead, and multiply the % by the account balances. (will equal under or overapplied amount).

- Allocation over ^{all} job cost: Take the % of each ~~of~~ specific job cost from the total job cost.

- Use the % ^{from} of each cost and multiply by over or under applied overhead to get amt of overhead allocated to each job.

Normal Costing - Consist of actual direct costs plus overhead applied using a ~~predetermined~~ predetermined overhead rate

Chap. 16 Self Notes

Budget - management's plan for financial performance

✱ Operating Budgets - The budgeted income statement, production B., budgeted COGS

Financial Budgets - Cash budget, budgeted balance sheet

Fund. Variance Analysis

Control Methods (comparing actual to budgeted or planned results)

Variance (Difference) - Variance Analysis uses the difference between actual performance & budgeted performance to evaluate performance of individuals & business units

② Identify possible sources of deviations between budgeted & actual business performance.

③

~~more~~ Favorable Variance - When actual is ~~less than budgeted in revenue, sales, or anything~~ beneficial. Increases operating profits, holding all other things constant

Unfavorable Variance - When actual is less than budgeted and decrease operating profits, holding all other things constant.

Static Budget - that is it is developed in detail for one level of anticipated activity

Flexible Budget - in contrast, indicates budgeted revenues, costs, and profits for virtually all feasible levels of activity.

Efficiency Variance =

$$(SP \times AQ) - (SP \times SQ) \\ = SP \times (AQ - SQ)$$

*flexible budget is based on actual activity
x budget price.*

Sales Activity Variance - The difference between operating profits in the master budget and operating profits in the flexible budget.

Sales Volume Variance - Differences in unit

Profit Variance Analysis - Shows diff. between budgeted profits and actual profits earned

*Sales Price Variance - The diff. between the actual revenue + budgeted selling price multiplied by the actual # of units sold.

$$= \text{Rev. Actual} - (\text{budget SP} \times \text{Actual units sold})$$

Standard Cost Sheet - Provides the quantities of each input required to produce a unit of output along with the budgeted unit prices for each input.

Fixed Production Cost Variance - The difference between actual + budgeted costs

General Model -

Cost Variance Analysis - Model compares actual input quantities + prices with standard input quantity + prices

Price Variance Can be computed for each ~~at~~ variable manufacturing input.

$$\begin{aligned} \text{Price Variance} &= (AP \times AQ) - (\text{Std} P \times AQ) \\ &= (AP - \text{Std} P) \times AQ \end{aligned}$$

FIXED OVERHEAD 3 columns

Actual	Budget	Applied
60,450	60,000	Std hr Req X SR 14,250 X \$4 57,000
(u) 450		\$3,000 (u)
FOH Bud. Variance		Fixed OH Vol. Variance
	3,450	↓ Capacity
	underapplied	

* Budget will always be the budgeted amt. at beg. of the year.

@ beg of year budgeted to operate at 15,000 hrs

Bud Hr — 15,000
Std. hrs Req — 14,250
750 (u)

* Because you have 60,000 of OH for 15,000 units hours and used that much to make 14,250 units causing unit price to go up

if operate for less than planned you have an unfavorable FOH Vol. Variance

$$\frac{60000}{14250} = 4.211$$

Fixed FOHC — 60,450
A/P — 60,450

WIP — 57,000
Fixed FOHA — 57,000

LORD HELP ME!

Class Notes

Chap. 16

we do
When we analyze overhead ~~we~~ in two parts

① Variable

② Fixed

Handout

10-5

Flexible Budget - Is a budget that can be prepared for any level of operation.

With variable cost the total cost changes based on output but unit cost stays the same

* With Fixed Cost the total cost stays the same along the relevant Range but unit cost (Rate) changes.

3 Ranges $VC = 1.80$

$$\frac{60000}{12000} \\ \$5$$

$$\frac{60000}{15000} \\ \$4$$

$$\frac{60000}{18000} \\ \$3,333$$

Any Prob. must tell what level we are we are going to operate the plant.

① ~~80000~~

② ~~80000~~

③ Variable OH = 1.80

Fixed OH = 4.00

~~3000~~

→ 1st analyze

3 columns

- ① Actual - What was actual VOH cost incurred
- ② Flex Budget - A Hrs W x Std. Rate
- ③ Applied - Standard hours required for output achieved
Std Hrs Req x Std Rate

(Actual - Flex Bud)		Applied
26000	AW x SR 14000 x \$1.80 25200	Std Hrs Req x SR 14250 x 1.80 25650
800 (U) VOH Spend Variance		450 (F) VOH Efficiency Variance
350 Total Variance		
you subtract underapplied overhead		used less hours than Std. Required.

because Actual is 26000

Var. FO HC - 26000
~~under~~ A/P. - 26000

When you analyze overhead we do not oscillate any variances in journal entry they are closed at end of year.

WIP - 25650
Var FOH Applied - 25650

Chap. 16 cont'd pg. 59-7

Variable Production Overhead—

Self Reflect Variances—

- ① Price variances
- ② Quantity, Efficiency, + Volume variances

$AP \times AQ$	$SP \times AQ$	$SP \times S_{req} Q$
OR	OR	OR
$AHW \times AR$	$AHW \times SR$	$SR \times SH_{required}$
↑	↑	↑
<u>Price var.</u>		<u>Efficiency var.</u>

✗ With variable overhead variance you need the variable rate. (\$ per unit)

Fixed Cost Variance

—Has no efficiency variance because it doesn't have a relationship to input/output

Production Volume Variance — Is the difference between the applied fixed overhead + the budgeted fixed overhead
— A variance occurs ~~when~~ if the # of actual units produced differs from the # of units used to estimate fixed cost per unit.

Chap. 11 Allocation of Joint Costs

Joint Cost - A cost of a manufacturing process that produces several diff. outputs.

Joint Products ex) high-grade, or ~~to a~~ low grade coal, ~~(mid-grade)~~ same process to sell but diff product. Diff. qualities of oil come from the same mine.

Split off Point - The stage of processing at which the two products are separated.
(the coal is mined & ~~two~~ 2 products emerge)

2 methods for allocating Joint Cost

1) Net Realizable Value Method - Allocates joint costs to products based on their net realizable values at split off point.
- if the joint products can be sold at the split off point, the market value or sales price should be used.

Net Realizable Value - Est. sales value of each product at the split off point.
(Sales Value @ split off point)

Estimated Realizable Value - (Netback or workback method) ~~Net real~~ when joint products have more processing.

- We estimate it by taking the sales value after further processing less the additional processing cost.

- Then allocate joint cost to prod. in proportion to their net realizable

11/27/10

value @ split off point

split off point = value of a product at the point where it is split off from the main product

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(11)

Chap Eleven Self Notes

Allocating of Service Dept Cost.

Direct Method - Allocates cost directly to the final user of a service (production dept) ~~and~~ and makes no allocations among service dept.

Intermediate Cost Center - Any cost center whose costs are charged to other departments in the organizations,

Final Costs Centers - Cost centers whose costs are not allocated to another cost center.

Step Method - Recognizes that one service dept. can provide services to others and allocates some service dept. cost to other service dept.

* Once an allocation is made from a service dept., no further allocations are made back to that dept. *

Reciprocal Method - Recognizes all services provide by any dept., including those provided by other service dept.

- Costs of each service dept. are written in equation form

Tot. Service Dept. Costs = Direct Costs of the Service dept. + Cost allocated to the Service dept.

Factory Overhead - Any cost incurred during manufacturing process other than Direct Labor + Direct Materials

Cost of Goods Manu.

B.I. Raw Material	—	15
Purchases	—	325
Material available	—	340
E.I. Raw material		20
D. Materials used	=	320
D. Labor		100

Fac Overhead

Depr. Plant	—	80
Plant Supervision	—	5
Misc Plant O.H.	—	35
Plant Sup. used	—	10
Plant Utilities	—	30
Total manufacturing Cost - Direct material used, Direct labor + Factory Overhead		
Indirect labor	—	60
Tot. Manu O.H.	—	220

Total Man Cost ————— 640

Total Manu. Cost	—	640
B.I. WIP	—	10
Tot. Manu. Cost to acct for	—	650
E.I. WIP	—	5

Cost of Goods manu — 645

Income Statement

Revenue ————— 9500
COGS —————

B.I. Finished Goods — 70
COG Manufactured 645

Goods Avail. for sale 715
 E.I. Fin Goods — 55

COGS ————— 660

Gross Profit ————— 290

Mkt Cost ————— 240

EBIT ————— 50

2-10 B.I. Raw Material — 47,300

Purchases 80,000

Material Avail. For Use 127,000

E.I. Raw Materials — 15,250

① D. Materials used — 112,050

Prime Cost - Direct Materials used +
 direct labor

② D.M. = ~~100,000~~ 112,050

D.L. = 63,000

Prime Cost 175,050

Conversion Cost - Cost of Direct Labor
 + Factory overhead

DL - 63,000

Fac. O.H. - 110,000

③ 173,000

④ Service Cost = Direct labor, materials
+ Factory Overhead

D.L. = 123,000

DM = 112,050

Fac. OH = 110,000

Service Cost → 285,050

Income Statement

Revenue	400,000
Cost of Services	285,000
Gross Profit	114,950
Seller + Admin	
Adv — 5000	
FRAN. Fee — 10,000	11,000
N.I.	103,950

2-9 ① Activity: Manufacturing the calculator

Cost Driver — # of calculators produce
An activity that causes a cost to be incurred.

Variable Cost — ~~Unit~~ unit cost does
not change but the total cost
change based on ~~the~~ output
vary in direct proportion to output

* Means that cost
has taking place!

Fixed Cost - Cost that remain constant over a relevant range of activities. ~~THEY CHANGE~~
Remains constant as long as you stay ~~example~~ in the range (set range)

*Example - The class hold 36 people for 10,000 as long as it's between 0-36 people the fixed cost 10,000 stays constant if more fixed cost change. ✗

200,000(£2) + Fixed Cost

$$400,000 + 100,000 = 500,000$$

Total Maintenance
Cost

In accounting you have to find unknowns ~~to do~~ when looking for (2) you put the info. down in the format that it goes. If enough info. is present you can find any unknown.

2-13

Cost of Goods Manufactured

B.I. Raw Materials	—	65,700
Purch. Raw Materials	—	102,200
Direct materials avail. For Use	→	167,900
E.I. Raw Materials	—	80,300
D. Materials Used	—	87,600
Direct Labor	·	182,500
F. Overhead	—	146,000
Total manu. Cost	—	416,100
B.I. of WIP	—	138,700
Total manu. Cost to acct for	→	554,800
E.I. WIP	—	116,800
COGM	—	438,000

Income Statement

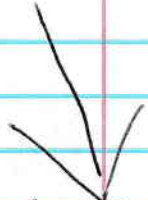
Revenue	—	730,000
B.I. Finished G	146,000	
COGM	—	438,000
Goods avail. For sale	584,000	
E.I. Finished Goods	167,900	
COGS	—	416,000
GROSS Profit	—	313,900

Break Even: means the Tot Rev = Tot Exp
and $CM = FC$.

Selling Price = 100% ← Always!

Variable Cost = 40%

Contribution ~~Cost~~ = 60%
Margin



* diff. between the selling price and variable cost. The contribution margin must be large enough to cover the fixed cost & the margin profit

Handout

6-1

Comp.	Sales	Variable Cost % of sales	Contri. Margin
A	204K	81600	70,000
B	100K		
C	70K		

A	B	C	
204K	100,000	70,000	Sales
81,600	60,000	21,000	V.C
122,400	40,000	49,000	CM
90,000	25,000	42,000	FC
32,400	15,000	7,000	Profit

Compute Break Even point in dollars:

$$BE \$ = \frac{F.C. + Profit}{CM Ratio}$$

$$\text{Contribution-Margin Ratio} = \frac{\text{C.M.}}{\text{Selling Price}}$$

Comp. A

$$\text{C.M. } \frac{122,400}{204,000} = \boxed{.60}$$

$$\text{Fixed Cost} = 90,000$$

$$\text{Profit} = 0$$

$$\frac{90,000 + 0}{.60} = 150,000 = \text{BE} \#$$

Because we want break-even

Every break even problem can be proven by simply doing an income statement.

Sales	—	204,000 150,000
V.C.	—	60,000
CM	—	90,000
F.C.	—	90,000
Profit	—	0

$$\frac{150,000}{.40} = 60,000$$

Because variable cost is always 40%

* Variable Cost - Changes because it varies depending on output. And in Comp. A

Comp B. $CMR = \frac{40000}{100000} = .40$

$$\frac{25,000 + 0}{.40} = 62,500 \text{ BE}^\#$$

Comp. C. $\frac{49,000}{70,000} = .70$

$$\frac{42000 + 0}{.70} = 60,000 \text{ BE}^\#$$

E (6-2) Selling Price/unit
 $= \frac{500,000}{50,000} = 10$

Var. Cost/unit
 $\frac{300,000}{50,000} = \6

C.M = \$4

Break Even Units

$$BEU = \frac{F.C + \text{Profit}}{C.M.}$$

* Must know CM, ^{per} unit *

Fixed Cost = 150000

so $150,000 + 0 / 4 = \boxed{37,500 \text{ units}}$

Income Statement

$$\text{Sales} \text{ --- } (37,500 \times 10) = 375,000$$

$$\text{Vari Cost} \text{ --- } (37,500 \times 6) = 225,000$$

$$\text{C.M.} \text{ --- } 150,000$$

$$\text{F.C.} \text{ --- } 150,000$$

$$\text{Profit} \text{ --- } 0$$

Marginal Safety = # of units we can drop in sales before we reach break even

$$\text{Current level sales in units} = 50,000$$

$$\text{B.E. sales unit} \text{ --- } 37,500$$

$$\text{Margin of Safety} \text{ --- } 12,500 \text{ units}$$

$$\frac{12,500}{50,000} = 25\%$$

MOS%

~~to 3)~~

can drop in sales from 12500 before you start losing money

Ex 6-3) ~~SP. 5~~

A	B	C
SP. 5	10	10 12
VC 4	6	8
FC 10000	75000	140000
C.M 1	4	4

Units (A)

$$\frac{10,000}{1} = 10,000 \text{ units} \quad \frac{\text{F.C.} + \text{Profit}}{\text{C.M.}}$$

$$\text{Units (B)} \quad \frac{75000}{4} = 18750 \text{ units}$$

$$\text{Units (C)} \quad \frac{140,000}{4} = 35,000 \text{ units}$$

Dollars

$$\frac{1}{5} = 20\%$$

$$\frac{4}{10} = 40\%$$

$$\frac{10,000}{.20} = \$50,000$$

$$\frac{75000}{.40} = \$187,500$$

$$\frac{4}{12} = .33333$$

$$\frac{140,000}{.3333} = 420,000$$

Sales - V.C - F.C = Profit

$$\text{Sales} - \text{V.C.} - \text{F.C.} = \text{Profit}$$

Let $x = \left\{ \begin{array}{l} \text{The \# of units needed to} \\ \text{attain 10\% profit} \end{array} \right\}$

$$5x - 4x - 10000 - 5x(.10) = 0$$

$$x - 10000 - .5x = 10000$$

$$x = 20,000 \text{ unit}$$

wanna
make
10%
of every
thing you
sell

Inc. Statement

Sales (20,000 x 5)	- 100000
V.C (20,000 x 4)	- 80000
CM	20000
F.C.	10,000
Profit	10000

$$\frac{10000}{10000} = 10\%$$

$$5x - 4x - 10,000 - 5x(.10) = 0$$

$$x - 10,000 - 5x(.10) = 0$$

$$x - 10,000 - .5x = 0$$

$$-x \quad \quad \quad -x$$

$$10,000 - .5x = -x$$

$$+ .5x \quad + .5x$$

$$10,000 = 20,000$$

.5

9/07/2010

Computing with more than One Product

E 6-10

	A	B	C
SP	10	20	40
VC	6	10	16
CM	4	10	24
FC			

Sales (A) 5,000 (²⁴~~4~~) = 20,000

(B) 3,000 (¹⁰~~10~~) = 30,000

(C) 2,000 (²⁴~~4~~) = 248,000

Tot CM. — 98,000
Fixed C. ~~100~~ — 78,400
N.I. ————— 19,600

When you have >1 you must know the ratio of the products being sold to one another. And must compute the weighted CM.

A 5000
B 3,000 = 10,000 (A) $\frac{5}{10}$ (C) $\frac{2}{10}$ (B) $\frac{3}{10}$

(C) 2000

so, (A) $\frac{5}{10}$ (24) * multiply Ratio by CM = WCM

$$5/10 = .5(4) = 2$$

$$3/10 = .3(10) = 3$$

$$2/10 = .2(24) \underline{4.8}$$

$$9.8 = \text{WCM}$$

$$\frac{\text{F.C.} = \text{BEU}}{\text{WCM}} \quad \frac{78400}{9.8}$$

$$\frac{78400}{9.8} = 8,000 \text{ combined units}$$

$$\textcircled{A} .5(8000) \quad 4,000$$

$$\textcircled{C} .2(8000) \quad 1,600$$

$$\textcircled{B} .3(8000) \quad \underline{24,000}$$

$$8,000$$

Proof

$$\textcircled{A} \quad 4000 \times 4 = 16,000$$

$$\textcircled{B} \quad 2400 \times 10 = 24,000$$

$$\textcircled{C} \quad 1600 \times 24 = 38,400$$

$$\text{Tot. CM.} \quad \underline{78,400}$$

$$\text{F.C.} \quad \underline{78,400}$$

N.I

0

Job Order Costing - Is a method for ~~the~~ collecting cost in a factory
- Used when the job is prepared ~~the~~ according to customer's specifications
car repair

To each job you must charge 3 cost.

① Direct Material, ② Direct Labor, ③ Fact. Ov.H.

There's no prob how figuring out the D.M for jobs nor labor

With factory Overhead

4-6 Predetermined overhead Rate

Normal Costing System

~~Plant~~ Predetermined OH Rate

Formula = $\frac{\text{Budgeted OH}}{\text{Budgeted Activity}} = \text{OH Rate}$

$\frac{675,000}{75,000} = \9 per DL hour
Means each hour that we work on any job it's assigned to Overhead.

① Applied Overhead

2 accounts Factory OH Control

Debit
Bal.

debited for actual
use of OH

② F.OH Applied

Credit
Bal.

credit for all OH
charged to production

Applied Overhead = Actual hr worked
(x predetermined overhead rate)

$$50 \times 75,700 = 681,300$$

Fact. OH Control

F.OH Applied

681,000

681,300

③ \$300 over applied

Normal Costing — Actual D.M. used
plus actual D.L. + ~~actual~~ F.O.H applied

~~Actual DM~~ Actual DM + Actual DL + F.O.H applied
 $957,000 + 681,300 = 1,638,300$

$\frac{1,638,300}{\text{\# units } 400,000} = 4.09575 = \text{cost per unit} \textcircled{1}$

The units we p

F.O.H. control + applied are temporary accounts. And are closed at end of period

Fac. OH Applied — 681,300

COGS	300
Fac. OH Control —	681,000

Because cost were overstated now we're putting them back together to correct amt.

COGS	
DEBIT	
BAL	

When F.O.H Applied is overstated you need to decrease cost.

4-8 Cost driver - any activity that cause cost to be incurred

Different In companies because depending on the company we wanna know whats driving

①

<u>A</u> $\frac{240000}{6000}$ $= \$40$ per direct labor hour.	<u>B</u> $\frac{\$300000}{\$400000} = .75$
--	---

When you divide dollar by dollar get percentage

Divide dollar by RATE get per unit

<u>FAC OH Control</u> 221,000	<u>FOH Applied</u> $6100 \times \$40$ $= 244,000$
----------------------------------	---

23,000 over applied

②

<u>FOH Control</u> 316,500	<u>FOH Applied</u> $\begin{array}{r} 411,000 \\ \times .75 \\ \hline 308,250 \end{array}$ $- 8,250$ under applied
-------------------------------	--

9/21/10

WIP is a control account. This acct controls/contains all the cost of all jobs in the factory. Debited for 3 cost

- ONLY
- ① Direct Labor
 - ② Direct materials
 - ③ FOH APPLIED

So debited for Normal Costing

4-17) #17

RM - ~~12000~~ + 2500

~~WIP~~

DL - 1500 + 2500

ADH 1050 + 1750

($\frac{1050}{1500} \times 2500$) $\nearrow$

① Raw Mat. - 15000

A/P - 15000

② ~~WIP~~ WIP - ~~12,500~~ 23,700

Raw Mat - 23,700

③ $2500 = 250 \times 10$

$$\begin{array}{r} 275 \\ \times 11 = 3025 \\ + 2500 \\ \hline 5,525 \end{array}$$

WIP - 5,525

Wage/Pay - 5,525

④ #17 $\leftarrow$ ADH
 $\frac{1,050}{1,500} = 70\%$

#18
 $\frac{840}{1,200} = 70\%$

#18

12410 + 11,200

3025 ~~1200~~ 1200

840 + 2117.5

19,792.5

($\frac{840}{1200} \times 3025$) $\nearrow$

17

$$2500 \times .70 = 1750$$

$$3025 \times .70 = 2117.50$$

$$3867.50$$

WIP - 3867.50

ADH - 3867.50

Factory
overhead
applied

all actual
use of OH

⑥ Factory OH Control - 4,000

A/P - 4,000

Added
all cost listed
under job
ticket DM, DL
FOH

⑦ # 18 Finish Good - 19,792.5

WIP - 19,792.5

⑧ COGS - 19,792.5

Finish Goods 19,792.50

A/R - 31,668

Sales - 31,668

3. Schedule of Inventories 7/31

RM	WIP	FIG
12000	8000	20000
15000	237000	19,792.5
27000	5,625	39,792.5
3,300	986750	19,792.50
	41,092.50	20000

21,300 Deb
Balance

↓
This should
be the
amt

left in unfinished jobs add up
Job #17 21,300

WIP (control acct) ^{Balance} must equal
any subsidiary job in the
factory

(Main) Factory Overhead Control - A control
account that summarizes various overhead
costs including indirect materials, indirect
labor and depreciation

(35) @

Physical Flow

B.I. 800 units
started 3800 units
acct for 4600 units

DM	Dir Lab	OH	Total
\$8700	\$3800	\$6,600	\$19,100
\$85380	\$23560	\$65,720	\$174,660
<u>94,080</u>	<u>27,360</u>	<u>72,320</u>	<u>\$193,760</u>

WIP
 $280 \times \$21 = 15120$
 $360 \times \$6 = 2160$
 $320 \times \$16 = 5120$
13,160

Completed 4200
NIP 400 ~~(400)~~

4200	4200	4200
<u>280</u>	<u>360</u>	<u>320</u>

↓
Tot. cost
To acct.
for

Tot. Acct 4 — 4600
70% DM so $.70(400) = 280$
90% DL $.90(400) = 360$
80% OH $.80(400) = 320$

4480 unit 4560 unit 4520 unit → whole units

Unit Cost

\$94,080	\$27,360	\$72,320
<u>4480</u>	<u>4560</u>	<u>4520</u>
\$21	\$6	\$16

\$43 - Total Unit Cost

How many
D.M. is in
the completed
units (100%)

every unit
I produce has
\$21 in DM in it

Cost Trans Out

~~4200~~ $4200 \times \$43 = \$180,600$
Transfer this cost out
of dept. along with
4200 units

~~400~~ $\$180,600$
 $+ 13,160$

Tot. cost
To acct \$193,760

Fin. Goods — 180600

WIP — 180600

(b) WIP — 85380

RM ~~85380~~ — 85380

Because there is some indirect material

WIP — 23560

Wages ~~Pay~~ — 23560

WIP — 174,660

FOHA — 174,660

3 (36)

36. Phy Flow

B.I. units 400,000 units
 Stated 2,000,000
 Tot Acct for 2.4 mill

Completed 1,800,000
 WIP 600,000 (100%)
 2,400,000 (50%) conv

DM
~~\$400,000~~
~~\$2,600,000~~
 3,000,000

1,800,000
 600,000
 2,400,000

DL
~~\$630,000~~
~~\$3,990,000~~
 4,620,000
 eq. units

1,800,000
 300,000
 2,100,000

OH
~~\$378,000~~
~~2,394,000~~
 2,772,000

1,800,000
 300,000
 2,100,000

Tot.
 1,408,000
 8984,000
 10,392,000

Unit Cost:

~~\$3,000,000~~
~~2,400,000~~
 \$1.25

4,620,000
 2,100,000
 \$2.2

2,772,000
 2,100,000
 \$1.32 = 4.77

Cost Transferred Out

$$1,800,000 \times 4.77 = 8,586,000$$

WIP

$$\begin{aligned} 600,000 \times 1.25 &= \\ 300,000 \times 2.2 &= \\ 300,000 \times 1.32 &= \end{aligned}$$

1,806,000
 10392000

Class Notes

FIFO

- ① Compute work done on Beg. Inventory in the last accounting period
- Starting work in new account

Find out what you did in last period so you can see what you need to do the next period

Subtract the units B.E. from the units completed + gives you units started + completed in current period

$$\begin{array}{r} 6,000 \\ 35,000 \\ \hline 41,000 \end{array}$$

With FIFO you only use current cost, 1st inventory in + out

Cost trans out - B. Inv. goes 1st

With FIFO Beg Inv. cost is maintained separately from other cost.

~~with~~ unit cost * only use current cost to calculate unit cost

① Physical Flow

Tot cost in dept. must equal total cost accounted for.

(40)

Phy Flow		eq units		
		DM	DL	OH
B.I. 6000 (100%)	← Labor			
ST. 45000 (30%) (60%)	← OH	6000	1800	3600
51000	+			
	70% DL			
	40% DM			
Comp. 41000	→	35,000	35000	35000
		10000	4000	7000
		45000	43200	44,400
		DM	DL	OH

Unit Cost		
\$45,000	\$21,600	33,300
45,000	43,200	44,400
\$1	5.50	.75 = 2.25

Cost transferred Out

B.I. 4,980

450

3180

8610

+ 3900

Tot. Cost Beg Inv. = 12,510

DM $0 \times \$1 = 0$ DL $4200 \times .50 = 2100$ OH $2400 \times .75 = 1800$ 3900

Current Production

 $35,000 \times 2.25 = 7875$

Tot. Cost trans. out - 91,260

WIP - $10000 \times \$1 = 10000$ $4,000 \times .50 = 2,000$ $7,000 \times .75 = 5,250$ 17,250+ 91,260

108,510

FIFO

Physical Flow

B.I. - 5000 4%
 Strt - 90,400
95,400 - 0 -

Compl - 91,400
 WIP - 4000 (70%)
95,400

5000
 - 90

29 units
 DM CONV
 5,000 2000
Curr Prod
 - 0 - 3000
 86,400 86,400
4000 2800
 90,400 92,200

Unit Cost
 415,840 106,030
90,400 92,200
 \$4.60 \$1.15 = 5.75

13,875
 415,840
106,030
 535,745

Cost Trans Out

B.I. 13,875
 DM (0 x 4.6) = 0
 CONV (3000 x 1.15) = 3,450
17,325

Curr. Production
 86,400 x 5.75 = 496,800
 Tot. Cost TRANS Out 514,125

WIP 4000 x 4.6 = 18,400
 2800 x 1.15 = 3,220
21,620
 + 514,125
535,745

Finish Goods - 12,510
 WIP - 12,510
 Fin Goods - 78,750
 WIP - 78,750

Chap. 9 Activity Based Costing

In Job order costing dept. only have 1 overhead rate

- The assumption is all units you produce pick up the same amt of cost or require the same amt of work.

Activity Based Costing - ~~1~~ dept can have several overhead rates. The dept is ~~not~~ divided into activities

- They will have different cost drivers

* The only difference - more than 1 OH rate and it will be assigned based on different activity

Cost Driver - An activity which causes cost to be incurred.

BE 4-3) 3 Overhead Rates

$$\frac{S}{180,000} = \$1.80$$

$$\frac{M}{300,000} = \$1.2$$

$$\frac{I}{70,000} = \$1.50$$

BE 4-4

COST POOL - A segment of the plant where we collect cost.

4 Cost Pool

$$\frac{\text{Designing}}{480,000} = \$1.40$$

$$\frac{S+C}{3,200,000} = \$1.20$$

$$\frac{S+T}{1400,000} = \$0 \quad \frac{B+P}{320,000} = \$10$$

Le-24 Cost Distortion

$$\frac{\$250,000}{50,000} = \$5 = \text{OH Rate}$$

$$\text{DM} - 20,000$$

$$\text{DL} - 18,000$$

$$\text{FOH} - 1800 \times 5 = 9000$$

$$\frac{47,000}{1,000} = \$47 = \text{unit cost}$$

$$\frac{E}{40,000} = \$2$$

$$\frac{\text{MH}}{90,000} = \$18$$

$$\frac{S}{80,000} = \$80$$

$$\frac{Q}{40,000} = \$20$$

$$\text{DM} - 20,000$$

$$\text{DL} - 18,000$$

FAC. OH

$$E = 2000 \times 2 = 4000$$

$$\text{MH} = 40 \times 18 = 720$$

$$S = 5 \times 80 = 400$$

$$Q = 20 \times 20 = 400$$

$$\frac{43,520}{1,000} = 43.52$$

Activity based costing should give you a more

Chp 16 Class Notes

Standard Costing

3 Type

① Actual Costing - WIP is debited with actual DM cost, DL and FOH

② Normal Cost - WIP debit with actual DM, DL, and Factory overhead applied

③ Standard Costing - WIP is debit for standard DM, DL, FOH required

Direct Material + Direct Labor

Standard @ budget you have set up for yourself.

What your going spend on material

9-2 Price Variance

actual units purchased	Actual units Purch
x Actual price	Standard Price
5,000 x 4.10	5,000 x 4
20,500	20,000

500 u

unfavorable material price variance

Raw Materials - 20,000

MPV - 500

AIP - 20,500

In the Standard system all inventory accounts are recorded at standard cost

Anytime you have a unfavorable you debit MPV. If you have a favorable you credit MPV.

Actual Quantity

Standard Quantity

Required for the output achieved

Standard Price

Standard Price

$$5000 \times \$4 = 20,000$$

$$4500 \times \$4 = 18,000$$

MQV

$$4500 \times \$4$$

$$18,000$$

Unfavorable Material Quantity Variance

Raw Materials - 20,000

MPV - 500

AIP - 20,500

WIP - 18,000

MQV - 2,000

Raw Materials - 20,000

Actual Q used

Std Price

$$3720 \times 4$$

$$14,880$$

Std Quantity

Recognized

Std Price

$$3600 \times 4$$

$$14,400$$

$$480$$

MQV

9-4 Actual Hrs
Worked

Actual Rate

$$1640 \times 16$$

$$= 10,240$$

Actual Hrs Worked

Std Rate

$$1640 \times 15$$

Std Hrs.
Req.

Std Rate

$$1600 \times 15$$

$$9000$$

$$1640 (u)$$

DLRV

$$1600 (u)$$

LEV

$$1240 (u)$$

Tot Variance

output
15,000
40
600000

2nd price
3160 X 4

Wages/Pay - 10,240

$$450 \times 15 = 6750$$

022, H1
480x15
7200

450 (F) 450 (W)
L DIV, LRM LRV

Total Variance

Natural Rate

~~1040 x 0.40~~

01 x 040

wages/buy 7200

$$0.46, 0.1 =$$

(N) Owl

(v) Other

(u) 0451

Smolinsky to T

Q-3 AQP

AQP

x
AP

x
Std P

8200 x 1.5

8200 x ~~1.4~~ ~~1.4~~ 1.40

12,300

11480

820(u)

MPV

AQY

Std Q Reg

x

x

Std Pr

Std Price

8200 x 1.40

8,000 x 1.4

11480

11200 (1)

280(u)

MQV

4000

x 2

8000

Q-5 ~~AP~~ Q Hrs W

A Hrs W

Std Hr Reg

x
AR

x
Std Rate

x
Std Rate

1300 x \$

1300 x \$14

1250 x \$14

16900

18200

17500

1300(F)

700(u)

LRV

LEV

\$600(F)

Tot Var

$\frac{600}{15} = 4$

$\frac{5000}{4} =$

1250

Std hr

Standard Cost to produce jeans.

9-6 Material + Labor Variance

1500 units

8000 materials @ \$1.20

E.I. 1700

800 DL @ \$1.500

4 Columns for MPV + MQV

(a) Material Cost + Quantity Variance

~~AQ Purchased~~
x
Actual P

8,000 x \$1.20
\$9600

What you paid
↓

AQ P
x
Std P

8000 x \$1.25
10,000

AQ Used
x
Std P

6300 x 1.25
7875

400 (F)
MPV

Std Q Required

Std Price
6000 x \$1.25
7,500

375 (U)
MQV

1500
x 4

Mat. 100000

MPV - 400
A/P - 9600

8000
1700
6300

(b) Labor Variance

A Hrs W

x
A R
800 x \$14.375
11500

A Hrs W

x
Std R
800 x 14
11200

Std Hours Required for output achieved

x
Std Pr
750 x 14
10500

300 W LRV
700 (U) LEV
1000 (U) Tot. Variance

method 1

Raw Materials — 10,000

MPV — 400

A/P — 9,600

~~WIP — 7,500~~
~~MPV~~

WIP — 7,500

MPV — 375

Raw Material — 7,875

WIP — 10,500

LRV — 300

LEV — 700

Wages Pay — 11,500

Method 1 - All variances are isolated
asap. ~~When material is purchased~~

MPV represents the price variance for all
material that is purchased (asap)

→ Fin Goods — 7,500

WIP — 7,500

* Both methods give the same answer
it's just how do you get there!

Method 2 - Price Variance is isolated for only those ~~used~~ units which are used.

Raw Material acct is recorded at actual cost.

Method # 2 (Same Problem)

Raw Materials - 9,600
A/P - 9,600

Compare	
A @ Used	A @ U
X	X
A/P	Strd P
6300 x 1.20	6300 x 1.25
7560	7875
315 (F) MPV	

*No price variance is isolated @ purch
Price Variance is isolated when units are placed in production

Only reflect price variance for units use

WIP - 7875
MPV - 315
Raw Materials - 7560

Fin Goods = 10,500
WIP - 10,500

When units are transferred to finished Goods the Material Q Variance is isolated.

Fin Goods - 7,500
MQV - 375

WIP - 7875

under both methods MQV is same

11-41
Equip^{val}
Maint
198000
(198,000)

~~6000~~ Admin
120,000 Acc
312,000 M
162,000 P
600,000

6/600 x 198
120/600 x 198
312/600 x 198
162/600 x 198

of employees
Accounting
375000
39600
414,600
(414,600)

18 Ad
70 M
100 P
188

18/188 x 414,600
70/188
100/188

Sa Ft
Admin
270,000
1980
39,696
311,676

360,000 M
90,000 P
450,000

360/450 x 311,676
90/450

P Dept

Molding
DM 237,500
DL 337,500
OH 112,500
M- 102,960
A - 154,372
249,341

Painting
210,000
200,000
75,000
53,460
220,532
62,335

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labor ~~anal~~ analysis are same just diff journal entry.

WIP — 11,200
(u) LRV — 360 ~~100~~
WIP — 11,500

Labor efficiency variance ←
FIN GOODS — 10,500
LEV — 700
WIP — 11,200

The ? is at what point do you isolate the different variances,

HOMEWORK Worksheet

9-7, 9-8, ^{use both} methods + with journal entries

Both methods

11/16/10

②

① Service Departments

② Producing Dept

Are necessary in order to have producing dept. They provide services for producing dept.

Cost for Service Dept must be allocated to a producing dept. And become a part of the overhead of producing dept.

Units only flow thru producing dept & is included now in the unit cost to produce

Direct Method - Service dept. cost are allocated to producing dept only.

- THEORY - Serv. dept. only provide serv. to Pro. dept.

Step Method - Service dept. cost are allocated to other service dept. & then allocated to other service dept.

- THEORY - Serv. dept. do provide services to other service depts.

Reciprocal Method
 Service dept. ~~at~~ cost are allocated
 to both serv. & production cost
 MOST ACCURATE!

HANDOUT DIRECT METHOD I

7-5

get #
of kilo
hours in
P1 & P2
only

① SA
130000

SP
240000

SC
120000

30000
70000
100000

24000
8000
32000

P1
60000
39000

P2
116000
91000

$$\triangle 3/10 \times 130000 = 39000$$

$$7/10 \times 130000 = 91000$$

SA
130000
(130000)

SB
240K

SC
120K

P1

P2

301000
+70000
100000

24000
8000
32000

3/10 X 130K
39000
7/10 X 130K
91000

24/32 X 240K
180,000
8/32 X 240K
60,000

4000
6000
10000

4/10 X 120K
48000

6/10 X 120K
72000

60000
390000
180000
28000

327000
4000

81.75

116000
91,000
6000

72000

339000
6000

56.50

17-5 using Step

Once dept is closed
cant go back

→ P2 With Step method

OH SA
130,000
(130,000)

13,000
25,000
30,000
70,000
138,000

13/138 x 130

25/138 x 130

30/138 x 130

70/138 x 130

SB
12,246
240,000

252,246
(252,246)
6,000
~~24,000~~
~~8,000~~
38,000

252,246
6/38 x 240
24/38 x 240
8/38 x 240

SC
23551

39,828
~~183,739~~
(183,399)

4,000
6,000
10,000

4/10 x 183,399
6/10 x 183,399

P1
28261

15,9313
73,352
320,926
4,000

86.23

P2
659,420

53,104
110,027
345,073
6,000
51,522

HR	Power	HR	Power	Gen	Coloring
50000	—	80000	—	200000	1500000 = 400K
—	—	—	—	160000	1160000 = 400K
Power%	.125			.50	.375 = 100%
H/R%	—	.20		.40	.40 = 100%

$$HR = 144,000 + .125P$$

$$P = 130,000 + .20HR$$

$$P = 130,000 + .20HR$$

$$P = 130,000 + .20(144,000 + .125P)$$

$$P = 130,000 + 28,800 + .025P$$

$$.975P = 158,800$$

$$P = 162,872$$

$$HR = 144,000 + .125P$$

$$HR = 144,000 + .125(162,872)$$

$$HR = 144,000 + 20,359$$

$$HR = 164,359$$

① Get %'s

$$\begin{array}{r} 50000 \\ + 160000 \\ + 160000 \\ \hline 370000 \end{array}$$

Reciprocal Method (Algebraic)

$$\begin{array}{r}
 \text{HR} \\
 144000 \\
 (164359) \times .20 \\
 \hline
 20359 \quad .125 \times \\
 \hline
 0
 \end{array}$$

add
this col.
must be
0 if not
something is
wrong

$$\begin{array}{r}
 P \\
 130000 \\
 32872 \\
 \hline
 (162872) \\
 \hline
 0
 \end{array}$$

$$\begin{array}{r}
 \text{Green} \\
 50000 \\
 \times .40 \quad 65744 \\
 \hline
 84436 \\
 \hline
 197180 \\
 \hline
 20000 \\
 9.859
 \end{array}$$

$$\begin{array}{r}
 \text{Color} \\
 80000 \\
 \times .40 \quad 65744 \\
 \hline
 37561677 \\
 \hline
 206,821 \\
 \hline
 30000 \\
 6.8940
 \end{array}$$

7-14

Sequential Method

<u>Cafe</u>	<u>Gen Fac</u>	<u>Print</u>	<u>Bind</u>	<u>Tot</u>
<u>Cafe</u>	10	10	40	50
<u>Gen-Fac</u>	2000	1500	4500	8000
<u>Cafe</u>	—	• 17	• 66 = 100%	
<u>Gen Fac.</u>	• 25	• 1875	• 5625 = 100%	

$$C = 20000 + .25G = 46,997$$

$$G = 100000 + .17C = 107,990$$

$$\frac{C}{20000}$$

$$\begin{array}{r} \underline{C} \\ 20000 \\ (46997) \\ \hline \end{array}$$

$$\begin{array}{r} \underline{G} \\ 100000 \\ 7989 \\ (107990) \cdot 525 \\ \hline \end{array}$$

$$\begin{array}{r} \underline{P} \\ 40000 \\ 7989 \\ 20248 \\ \hline 68,237 \end{array}$$

$$\begin{array}{r} \underline{B} \\ 60,000 \\ 31081 \\ \del{6025} \\ \hline 60744 \\ \hline 1511762 \end{array}$$

③	<u>Actual</u>	<u>Flex Bud</u>	<u>Applied</u>
	79000	80000	190000
	19000 x 3.95		

Homework
5-2) FO

5-2

	<u>F.O</u>	<u>Rep</u>	<u>Fab</u>	<u>Finish</u>
F.O.	—	.15	.45	.40
Rep	.40	—	.25	.35

$$FO = 21000 + .40R$$

$$21000 + 16000 \times .40 = 29150$$

$$\text{Rep} = 16000 + .15 \cdot FO = 20373$$

$$\begin{array}{r} FO \\ 21000 \\ (29150) \\ 8150 \\ \hline 0 \end{array}$$

$$\begin{array}{r} Rep \\ 16000 \\ 4373 \\ (20373) \\ \hline \end{array}$$

$$\begin{array}{r} Fab \\ 49695 \\ 13118 \\ 5093 \\ \hline 67906 \\ 221635 \\ \hline 3.00 \end{array}$$

$$\begin{array}{r} Fin \\ 60305 \\ 11660 \\ 7131 \\ \hline 79096 \\ 15819 \\ \hline 5.00 \end{array}$$

5-9 Direct method

<u>Blding</u>	<u>Adm</u>	<u>Eng</u>	<u>Fab</u>	<u>Assembly</u>
780	855	450	1740	1275
	(855)		468	312
			543	312

<u>Blding</u>	
600	$6/10 \times 780$
400	$4/10 \times 780$
<u>1000</u>	

Answer. ^{FAB} 3,7513

Eng. 3,4983.

5a

Step method

1 Building
 780
 (1780)

Admin

855

120

975

(975)

Eng.

4500

60

30

540

(540)

Fab.

1740

360

600

300

3000

800

Assem

1275

240

345

240

21000

600

Blding

200

2/13 x 780

100

1/13 x 7

600

6/13

400

4/13

↓

~~1150~~

1300

Admin

10

10/325 x 975

200

200/325

115

115/325

↓

325

Eng

100

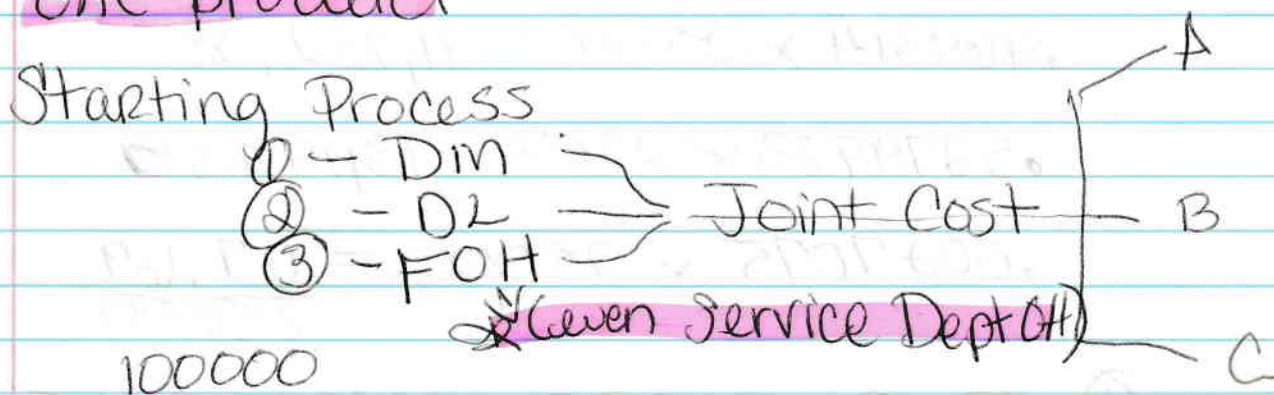
100/180 x 540

80

8/1800

180

Joint Costing
simultaneous processing of more than one product



Split off - At point in process you will be able to identify the diff. products cost independently

- When you can get a # of products from one material.

Methods to allocate Joint Cost

* Need sales value @ split off

		②	
①	AB	$8000 \times (2.00 - .75)$	$3.25 = 26000$
	CB	$9000 \times (4.25 - 1.00)$	$3.25 = 29250$
	D	$500 \times (.40 - .10)$	$.30 = 150$
		Est. Sales	55 55400
		val. at split off	

Take ending SV = 4 (subtract additional cost to process)

③ Get % $26000 / 55400 = .469314$

Give joint cost allocated to each product

$29250 / 55400 = .5279783$

$150 / 55400 = .0027075$

Take that % & multiply by
Joint Cost

$$.469314 \times 25000 = 11,732.85$$

$$.5279783 \times 25000 = 13,199.57$$

$$.0027075 \times 25000 = \frac{67.69}{25000}$$

④ TO GET ADDITIONAL COST

$$AB = 8000 \times .75 = 6000$$

$$CB = 9000 \times 1 = 9000$$

$$D = 500 \times .10 = 50$$

$$14050$$

⑤ Total Cost =

$$AB \ 11,732.85 + 6000 = 17,732.85$$

$$CB \ 13,199.57 + 9000$$

$$D = 50 + 67.69 = 117.69$$

$$40050$$

Unit Cost =

$$AB \quad \frac{17,732.85}{8000} = 2.2166 \times 500$$

To produce

$$= 1,108.30$$

~~$$CB \quad \frac{13,199.57}{9000}$$~~

$$CB = \frac{22,199.57}{9000} = 2.4666 \times 1000$$

2,466.60

$$D = \frac{117,67}{500} = 23.538 \times 74$$
$$= 17.42$$

Unit of production method
= Joint cost allocated based
on # of units produced.
Same info from last prob.

AB	8000	0/0	45714	$\times 25000 = 11,428,5$
CB	9000	0	51429	$\times 25000 = 12,857,3$
D	500	0	02857	$\times 25000 = 714,25$
	<u>17500</u>		<u>100%</u>	<u>25000</u>

① get % based on
of units produced

② TC add back

Total Cost
+ 6000
+ 9000
+ 5
17428

~~Total Cost~~

Total Cost / # of unit $\times$ # of units
= Ending Inventory

accurate unit cost. In prior case
the regular ~~over~~ applied method over
applied

In Class Homework 11-23-10

6-3) Byproducts - Products with less
value.

in joint~~er~~ costing the sales value
of byproduct reduces the cost of
the main product
Byproduct a product you get from a process
rather you want it or not.

<u>Bx</u>	<u>J.C</u>	<u>Units</u>
500	30,000	XX 10000 1/3(2)
X .90	- 450	YY 20000
<u>450</u>	<u>29,550</u>	

→ That's what
we allocate
because by
products
Reduce the
cost of the
main product

Units - Allocate based on units

XX	10000	$\times \frac{1}{3} (29550) = 9850$
YY	20000	$\times \frac{2}{3} (29550) = 19700$
		<u>29550</u>

Weight

~~$$XX \quad 10,000 \times 5/10 (29550)$$

$$YY \quad 20,000 \times 3/10 (29550)$$~~

$$XX \quad 10,000 \times 5lb = 50,000 \quad 5/11 \times 29550 = 13432$$

$$YY \quad 20,000 \times 3lb = 60,000 \quad 6/11 \times 29550 = 16118$$

$$29550$$

~~Sal~~ Selling Value @ Split Off $\rightarrow 29550$

$$XX \quad 10000 \times 1.00 = 10,000 \times 0.5 = 5000$$

$$YY \quad 20000 \times 0.50 = 10,000 \times 0.5 = 5000$$

$$20,000$$

Should Item be process further?

Take 3 Things into consideration

- ① Ending SP
- ② SP @ split off
- ③ added cost to process

	XX	YY	BX
→	1.50	3.00	.90
→	(1.00)	(.50)	.75
→	(.75)	(1.00)	.10
	(.25)	1.50	.5

Loose
25¢
on every
unit I
process
further

if process
will make 1.50
profit

(-) Tells you that you will lose money
(+) means profit

9-3) @ Physical Method of Allocation

① Product	Units	JC allocated
A	28000	$28/100 \times 580,000 = 162,400$
B	32000	$32/100 \times 580,000 = 185,600$
C	40000	$40/100 \times 580,000 = 232,000$
	<u>100000</u>	

②		Sep. Cost	Est Sales Value @ 50
A	200,000 -	24,500	175,500
B	250,000 -	20,500	229,500
C	280,000 -	10,000	270,000
		<u>55,000</u>	<u>675,000</u>

* Develop % using

	%	J.C. allocated
A	26% $\times 580,000$	150,800
B	34% $\times 580,000$	197,200
C	40% $\times 580,000$	232,000

(b) 3 Things

	A	C
End SP	200,000	280,000
SP @ SD	(185,000)	(265,000)
added Cost to P.	(24,500)	(10,000)
	<u>(9500)</u>	<u>5000</u>

Sale a
@ split off

Continue to
process

9-4)

<u>Product</u>	<u>Sales Val. @ SO</u>	<u>%</u>
Jee	100,000	
Kee	175,000	
Lee	125,000	
	<u>400,000</u>	

	<u>%</u>	<u>JC Allocated</u>	
J	.25	X 300,000	= 75,000
K	.4375	X 300,000	= 131,250
L	.3125	X 300,000	= 93,750
	<u>1.0</u>		<u>300,000</u>

To get total Cost, take added Cost

	<u>Added Cost</u>	<u>TC</u>
J	75,000	20,000
K	131,250	12,500
L	93,750	7,500
	<u>300,000</u>	<u>40,000</u>
		<u>340,000</u>

Process further?

	<u>J</u>	<u>K</u>	<u>L</u>
Ending SP	116,000	145,000	142,500
SP @ SO	- (100,000)	- (175,000)	- (125,000)
Add Cost.	- (20,000)	- (12,500)	- (7,500)
	<u>(40,000)</u>	<u>7,500</u>	<u>10,000</u>

Sold
@ split off

Processed Further

2) Class Notes

Orders of Budgets

- 1) Sales Budget
- 2) Production Budget
- 3) Purchase Budget

#3 Production Budget

	Jan	Feb	Mar	Apr
Sales	15600	16500	16000	18500
Add E.I.	1650	1600	1850	
	17250	18100	17850	
	(1600)	(1650)	(1600)	
Prod	15650	16450	16250	

Less beg E. which is which B.I. = E.I. from prior period

Must take sales add E. Inventory

4.	1st	2nd	3rd	4th	1st
units	46000	42000	50000	39000	48000
X	4 lbs	X 4 lbs	X 4	X 4	X 4
	184000	168000	200000	156000	192000
Add E.I.	50400	60000	46800	57600	
	234400	228000	246800	213600	
Des. B.I.	(45000)	(50400)	(60000)	(46800)	
Purch -	189400 lbs	177600	186800	166800	
X 10	X 14	X 4	X 4	X 4	
X	757600	710400	747200	667200	
	168000				
X	X 30				
	50400				

4 lbs = 1 unit

① How many units & v going to produce - start w production

② add in desired E.I. (30%)

* Material inventory will be given in lbs need to take

4 column units + X 10 by pounds.

Direct Labor Budget

5)	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
	46000	42000	50000	39000
DL HRS	2.5	x 2.5	x 2.5	x 2.5
hr	115,000 hr	105000	125000	97500
Rate x	\$20	\$20	\$20	\$20
	2,300,000	2,100,000	2,500,000	1,950,000

Manufacturing Overhead Budget

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
46000 units	42000 units	50000 units	39000 units
Var	2000		

2.25
1.50
1.00
TVC =

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Var.	46000	42000	50000	39000
2.25 x	103,500	94500	112500	87750
1.50 x	69000	63000	75000	58500
1.00 x	46000	42000	50000	39000
	218500	199500	237500	185250

80000
30000
4000
114,000

80000
30000
4000
114,000

332,1000

313,600

351,6000

299,350

⑦ Budget Sales and Cash Recieps

Need to be able to ~~budget~~ (estimate) when cash \$ will be collected.

~~80%~~ 80% of Credit Sales are collected in ~~the~~ month purchased

100% of ^{credit} Sales are paid for in following month

10% of credit Sales are paid following that month.

Dec	Jan	Feb	March	Sales made in Dec effects Jan
100000	60000	80000	90000	
Dec 100	80000			
Jan .20	48000	12000		
Feb		64000	16000	
March		68000	72000	
	76000	76000	76000	
			88000	

10) 20% paid in month of purch
80% in following month

March	April	May	June
\$50000	\$55000	\$65000	\$88000
March	→ 40000		
April	→ 11000		
May		44000	
June		→ 13000	52000
	51000	57000	→ 17600
			69600

Class Notes Chp. 8

Job order cost Sheet

DM

DL

FOH

used when job is done to customer specif.

Process Costing - Used when you have the continuous processing of similar units.

Ex) calculators (all are just alike) should require same: Material

Labor +
Overhead

- all costs are charged to

the dept. The dept. becomes

the collecting device. All DM, DL, FOH, and all units produced are charged to production.

Cost of Goods Production Report

- Tells how many units completed + the cost

- The cost of units that were incomplete

35. 2 methods for preparing COGP.

① Weighted Average (we learn)

② FIFO

① 1st thing we do

a) Physical Flow - Tells us where the units come from + what did we do with them.

② Equivalent units - Is an attempt to convert partially completed units to whole units

~~Unit Cost~~ Unit cost - Take tot. Labor cost of DM + divide by equivalent units ~~for each acct~~ - do for DL. an FOH cost

③ Cost of Production Report

1. Do physical flow
2. Account for all cost in dept.
3. Do equivalent units
4. Unit cost (cost per unit)
5. determined cost transferred out of dept.
6. Determine cost of Ending Inventory

Make Sure Wiegthed Average is Understood.

Class Notes Chp. 8

Job order cost Sheet

DM

DL

FOH

used when job is done to customer specif.

Process Costing - Used when you have the continuous processing of similar units.
 Ex) calculators (all are just alike) should require same: Material
 Labor +
 Overhead

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Cost of Goods Production Report
 - Tells how many units completed + the cost
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35. 2 Methods for preparing COGP.
 ① Weighted Average (we learn)
 ② FIFO

① 1st thing we do
 a) Physical Flow - Tells us where the units come from + what did we do with them.

Self Notes Chp 8

2 types - Manufacture Companies

Continuous Process - Units are homogeneous and the assumption is that all units of a large group cost the same.

Discrete Production

Equivalent Unit - Is the number of physical units multiplied by the estimated percentage that an "average" unit in inventory is "complete" with respect to the individual resource.

(how complete the units in WIP are relative to a fully complete unit.)

5 Steps

1. Measure physical flow of resources
2. Compute Equivalent ~~units~~ units of Production
3. Identify the product costs for which to acct.
4. Compute the costs per equivalent unit
5. Assign product cost to batches of work.

→ Inventory Equation - $\text{B.WIP Inventory} + \text{units started} =$

$\text{units out transferred out} + \text{EWIP Inventory}$

② Computing Equivalent Units of Production

Since materials are needed at all WIP units are 100% complete with respect to materials.

- When units are transferred out of ~~WIP~~ WIP they are 100% complete as respect to materials + conversion.

* It'll indicate the percentage of cost relative to the units cost (WIP Inventory, ending + beginning)

③ Collect data on the costs incurred during the period. (Because there is WIP from month before, ~~they~~ and different equiv. units for materials + conversion cost)

Weighted Average Process Costing - Ignore the ~~work~~ month in which the work was done and calculate product costs by combining the work (and costs) for February + March.

- Combining work + costs, using the average cost of current work and work in inventory

↑ First-in, First-out (FIFO) Product Costing - Consider the work done in the two months separately and calculate unique costs for the work done in the current month and in the beg. Inventory.

- It assumes that all beg. WIP ~~Inventory~~ ^{units} are transferred out first, means Ending WIP comes from the work started during the current month.

↳ WA. adds cost together 1st and then divides this total cost by the total work for the two periods.

$$* = \frac{\text{WIP cost (beg.)} + \text{Current Period Cost}}{\text{WIP Equiv. Units} + \text{Current period Equiv. Units}}$$



- FIFO keeps the costs and the work separate and in effect, computes separate unit costs for the two periods.

= WIP Unit Costs

$$\frac{\text{WIP Costs}}{\text{WIP Equiv Units}}$$

$$\frac{\text{Current Period Cost}}{\text{Current Period Equiv. Units}}$$

⑤ Assigning the total cost to the two batches of work. The units completed + the units in WIP
Multiply # of equivalent units in 2 batches by cost per equivalent unit.

Production Cost Report - Summarizes the production + costs for ~~the~~ period

With Fifo you subtract the WIP ^{from} Beg. Inv.

BLUERICHNOTES.COM KEY

@	At	Exp =	Expense
A/D; Acc Depr =	Accumulated depreciation	Fac =	Factory
A/R =	Accounts Receivable	FASB =	Financial Accounting Standards Board
Acct =	Account	FC =	Fixed Cost
Adj =	Adjustment(s) or Adjust	FICA =	Federal Insurance Contribution Act
Amort =	Amortize or Amortization	FIFO =	First in First out
Amt =	Amount	Fin =	Financial
AP =	Actual price	Fin =	Finished
AQ =	Actual quantity	FMW =	Fair Market Value
Ass =	Assets	FOH =	Factory Overhead
Avail =	Available	FV =	Fair Value
Ave =	Average	FV =	Face value (in case of investments)
B / P; Bd / Pay =	Bond Payable	IASB =	International Accounting Standards Board
Bal =	Balance	IDS =	Income distribution schedule
Bd; Bds =	Bond	Inc =	Income
Beg =	Beginning	Int =	Interest
BV =	Book Value	Inv =	Inventory or Investment
Cal; Calc =	Calculated or Calculation	Invest =	Investment
Cap =	Capital	IS =	Intercompany Sale
CM =	Contribution margin	LEV =	Labor efficiency variance
COG =	Cost of Goods Sold	Liab =	Liability
COGM =	Cost of Goods Manufactured	LIFO =	Last in first out
COGP =	Cost of goods production	LTL =	Long term liability
Com =	Common	Merch =	Merchandise
Comp =	Company	MI =	Merchandise Inventory
Consol =	Consolidation	MR =	Market Rate
CR =	Contract rate	MV =	Market Value
Cred =	Credit	MV =	Maturity value (in case of investments)
CV =	Carry Value	N/R =	Notes Receivable
CVP =	Cost volume profit	NCI =	Noncontrolling Interest
D =	Distributions	NI =	Net Income
Deb =	Debit	NL =	Net Loss
Depr =	Depreciation	NSF =	Nonsufficient funds checks
Dis; Disc =	Discount	OH =	Overhead
DIV =	Dividend	Pd =	Paid
DL =	Direct Labor	Pd =	Paid
DM =	Direct Materials	PIC =	Paid in Capital
DTA =	Deferred tax asset	PP&E =	Property plant & equipment
DTL =	Deferred tax liability	Pre =	Premium
EFT =	Electronic Funds transfer	Purch =	Purchase
El=	Ending Inventory	PV =	Present Value
EL =	Eliminations	RE =	Retained Earnings
Equ =	Equity	Rec =	Receivable
Equip =	Equipment	Rev =	Revenue
EST =	Estimate	SE =	Simple Equity

SEC =	Security Exchange Commission
Sep =	Separate
Serv =	Service
Stat =	Statement
Strd P =	Standard price
Sub =	Subsidiary
Sum =	Summary
Tot =	Total
Val =	Value or Valuation
VC =	Variable Cost
VOH =	Variable overhead
W/ =	With
WIP =	Work in Process
WS =	Worksheet