

Specialist cost and Management Accounting technique

Costing techniques

- ABC ✓
- Throughput A/c ✓
- Target costing ✓
- Lifecycle costing ✓
- Environmental A/c ✓

ABC (Activity based costing)-

Direct cost 80%	OH 20%
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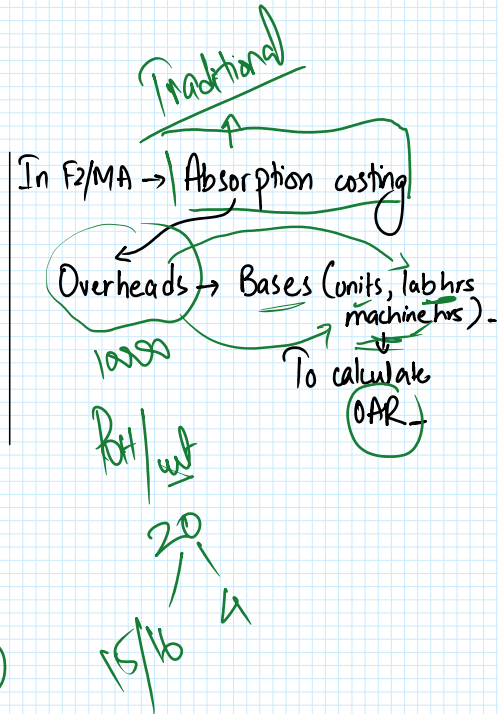
→ Old times
As OH are low in proportion → OH → units
e.g. 'labour intensive'

D.C 20%	OH 80%
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→ Now-
But now, OH are in great proportion so Bases must be chosen wisely.
e.g. 'Automation'

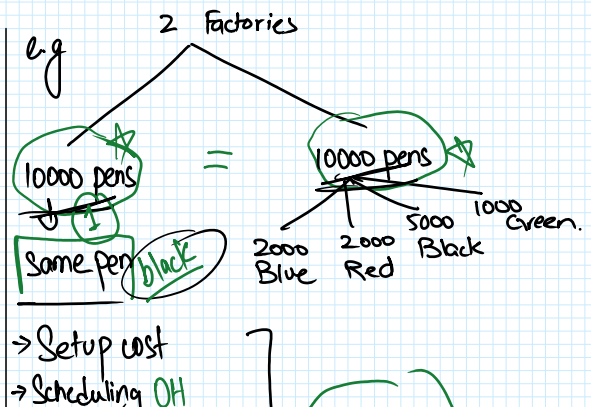
→ So Accurate estimate of OHs per unit must be made due to complexity in businesses.

→ Competition in market - ie AI.



Traditional systems → volume related resources (Abs) 'based on units'.

ABC system → Non volume related resource (Modern tech)
because many activities in business don't base on units or labour hrs etc



business don't base on
units or labour hrs etc.

→ Setup cost
→ Scheduling OH
→ Inspecting time OH
→ Purchasing, receiving
and handling mat
→ Requests handling

Overheads

unit?

If we use traditional costing

$$OAR = \frac{\text{Budgeted OH (cost pool)}}{\text{Budget Activity level (cost driver)}}$$

$$\frac{\$80,000}{16,000 \text{ M.hrs}} = \$5/\text{M.hrs}$$

$$POH/\text{unit} = OAR/\text{M.hrs} \times \text{Mach.hrs}/\text{unit}$$

$$\begin{aligned} \text{Sky Bar} &= \$5/\text{mach hr} \times 0.01 \text{ Mhr/unit} = 0.05 \\ \text{Moon egg} &= \$5/\text{mach hr} \times 0.04 \text{ Mhr/unit} = 0.2 \\ \text{Sun Bar} &= \$5/\text{mach hr} \times 0.02 \text{ Mhr/unit} = 0.1 \end{aligned}$$

Saturn, a chocolate manufacturer, produces three products:

- The Sky Bar, a bar of solid milk chocolate.
- The Moon Egg, a fondant filled milk chocolate egg.
- The Sun Bar, a biscuit and nougat based chocolate bar.

Information relating to each of the products is as follows:

	Sky Bar	Moon Egg	Sun Bar
Direct labour cost per unit (\$)	0.07	0.14	0.12
Direct material cost per unit (\$)	0.17	0.19	0.16
Actual production/sales (units)	500,000	150,000	250,000
Direct labour hours per unit	0.001	0.01	0.005
Direct machine hours per unit	0.01	0.04	0.02
Selling price per unit (\$)	0.50	0.45	0.43

Production overheads were as follows:

Machining costs	5,000
Component costs	15,000
Set-up costs	20,000
Packing costs	30,000
Production overhead (as per illustration 1)	\$80,000

Cost driver data:

	Sky Bar	Moon Egg	Sun Bar
Actual production/sales units	500,000	150,000	250,000
Machine hours per unit	0.01	0.04	0.02
Number of production set ups	3	1	26
Number of components	21	4	20
Number of customer orders	2	1	25

Required:

Using ABC, calculate the full production cost per unit and the profit per unit for each product. Comment on the implications of the figures calculated.

ABC

	Sky bar	Moon egg	Sun bar
Selling Price	0.5	0.45	0.43
Direct material	(0.17)	(0.19)	(0.16)
Direct Labour	(0.07)	(0.14)	(0.12)
POH/unit (w)	(0.05)	(0.2)	(0.1)
Profit/unit	(0.21)	(0.08)	(0.05)

Cost pool
Cost driver

Now, we'll use ABC costing approach.

\$80,000 → OH → Activities (cost pools)

Bases / Cost drivers -

Step 1 Identify cost drivers for each activity

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Activity	Cost drivers
✓ Machining cost	Machine hrs
Component cost	No. of components
Setup cost	No. of prod setup.
Packing cost	No. of customer's order

Step 2 Calculate Individual Activities OAR

OAR machining cost # $\frac{\text{Cost pool}}{\text{Cost driver}} = \frac{50000}{16000 \text{ Mhr}} = \$0.3125/\text{mhr}$

M. hrs
 Sky bar # $0.01 \times 50000 = 500$
 Moon egg # $0.04 \times 15000 = 600$
 Sun bar # $0.02 \times 25000 = 500$
 16000

OAR component cost # $\frac{\$15000}{30 \text{ comp}} = \$500/\text{comp}$ Components = 4 + 6 + 20

OAR setup cost = $\frac{\$30000}{30} = \$1000/\text{setup}$ Setup = 3 + 1 + 26

OAR packing cost = $\frac{\$30000}{50 \text{ order}} = \$600/\text{order}$ order = 21 + 4 + 25

Step 3 Absorb the cost to products

	Sky Bars	Moon egg	Sun Bars
Machining costs	$0.31/\text{mhr} \times 5000 = \1550	$0.31/\text{mhr} \times 6000 = \1860	$0.31 \times 5000 = \$1550$
Component costs	$\$500/\text{comp} \times 4 = \2000	$\$500/\text{comp} \times 6 = \3000	$\$500/\text{comp} \times 20 = \10000
Setup cost	$\$1000/\text{setup} \times 3 = \3000	$\$1000/\text{setup} \times 1 = \1000	$\$1000/\text{setup} \times 26 = \26000
Packing cost	$\$600/\text{order} \times 21 = \12600	$\$600/\text{order} \times 4 = \2400	$\$600/\text{order} \times 25 = \15000
Total POH	$= \$19150$	$= \$8250$	$= \$52550$
Units produced	500000	150000	250000
POH/unit →	0.04	0.06	0.21

	Sky Bar	Moon egg	Sun Bar
Selling Price	0.5	0.45	0.43
Direct material	(0.17)	(0.19)	(0.16)
Direct Labour	0.07	0.14	0.12
POH/unit (w)	(0.04)	(0.06)	(0.21)
Profit/unit	0.22	0.06	(0.06)

Reason

→ components

→ orders

So ABC is more accurate and advanced approach.

Cabal makes and sells two products, Plus and Doubleplus. The direct costs of production are \$12 for one unit of Plus and \$24 per unit of Doubleplus.

Information relating to annual production and sales is as follows:

	Plus	Doubleplus
Annual production and sales	24,000 units	24,000 units
Direct labour hours per unit	1.0	1.5
Number of orders	10	140
Number of batches	12	240
Number of setups per batch	1	3
Special parts per unit	1	4

+92304 4325200

Information relating to annual production and sales is as follows:

Cost driver	Annual cost
	\$
Setup costs	Number of setups 73,200
Special parts handling	Number of special parts 60,000
Other materials handling	Number of batches 63,000
Order handling	Number of orders 19,800
Other overheads	— 216,000
	432,000

Other overhead costs do not have an identifiable cost driver, and in an ABC system, these overheads would be recovered on a direct labour hours basis.

- Calculate the production cost per unit of Plus and of Doubleplus if the company uses traditional absorption costing and the overheads are recovered on a direct labour hours basis.
- Calculate the production cost per unit of Plus and of Doubleplus if the company uses ABC.
- Comment on the reasons for the differences in the production cost per unit between the two methods.
- What are the implications for management of using an ABC system instead of an absorption costing system?

Advantages & Disadvantages of ABC

- Accurate Cost/unit
- Better insight of what drives overhead costs.
- OH can be controlled because you know cost drivers
- Realistic cost in complex business
- services business

Disadvantages

- Low proportion OH businesses -
- Impossibilities in using all specific drivers
- Complex to understand
- cost ↑ benefit ↓.

ABC in public sector

↓
Govt → more service for less money

proper control

proper Allocation of costs to activities

↓
ABC

- Tight control where less resources and scared of accountabilities.
- Managers should be helped and get awareness

→ Resistance is there / Culture change-