FORMULA SHEET - Management Information

Performance measures appropriate to cost centres

It is important to monitor the performance of cost, profit and investment centres.

Performance measures for cost centres include:
- Cost compared to budget
- Cost/unit
- Efficiency, capacity utilisation, and production volume ratios

Cost per unit

Cost for producing one unit.

Cost per unit = Total costs / number of units produced

Efficiency ratio

Compares the budgeted output produced in standard hours and actual hours worked.

$$\text{Efficiency ratio} = \frac{\text{Standard hours of actual production}}{\text{Actual hours worked}} \times 100$$

Capacity utilization ratio

Measures if planned utilization as been reached.

$$\text{Capacity utilization ratio} = \frac{\text{Actual hours worked}}{\text{Budgeted hours}} \times 100$$

Production volume ratio

Compares standard hours worked with budgeted hours.

$$\text{Production v. ratio} = \frac{\text{Standard hours of actual production}}{\text{Budgeted hours}} \times 100$$

Net profit margin

Measures the profit margin after all expenses are considered.

$$\text{Net profit margin} = \frac{\text{Profit}}{\text{Sales}} \times 100$$

Gross profit margin

Measures the gross profit margin

$$\text{Gross profit margin} - \frac{\text{Gross profit}}{\text{Sales}} \times 100$$

Cost/Sales ratios

If targets are not met, further ratios may be used.

$$\text{Prodution costs ratio} = \frac{\text{Production cost of sales}}{\text{Sales}} \times 100$$

$$\text{Material costs ratio} = \frac{\text{Material costs}}{\text{Sales}} \times 100$$

$$\text{Labour costs ratio} = \frac{\text{Labour costs}}{\text{Sales}} \times 100$$

$$\text{Production overheads ratio} = \frac{\text{Production overheads}}{\text{Sales}} \times 100$$

Performance managment for investment centres

Return on capital employed/Return on investment shows how much profit has been made in relation to the amount of resources invested.

$$\text{ROCE/ROI} = \frac{\text{Profit}}{\text{Capital employed}} \times 100$$

Residual income mesures the profit of an investment centre after deducting a notional charhe or imputed interest cost.

$$\text{Residual income} = \frac{\text{Profit}}{\text{Capital employed}} \times 100$$

Assets turnover assesses how effectively an organisation's assets are being used to generate sales revenue.

$$\text{Assets turnover} = \frac{\text{Sales revenue}}{\text{Capital employed}}$$

This is not a percentage.

Inventory management

Inventory is the value of the goods that a business holds at a point of time for sale to its customers.

Free inventory calculates the inventory not scheculed for used.

Free inventory = Inventory on hand + inventory ordered - inventory scheduled for use.

Inventory may be finished goods, work in progress or raw materials.

In order to calculate finished goods we should produce the formula is:

Units expected to be sold + Units required in closing inventory - Units in opening inventory.

When from time to time managers decide that it is time to reorder items for inventory they will also have to decide quantities.

Materials purchase = materials usage+closing inventory material - opening inventory material

The business must produce enough to cover its sales volume and to leave enough in closing inventory.

Units produced = units sold + units in closing inventory - units in opening inventory

The labour cost is often a large element of the cost of a product and the remuneration methods and productivity of the workforce can significantly affect the unit cost of a product. Labour cost can be direct costs or indirect cost.

In order to calculate th direct labour costs the total number of active hours worked must be known.

(Basic hours+overtime-IDLE) x hourly rate

In order to calculate indirect labour we must:

Calculate the overtime premium which is the difference between overtime pay & basic rate:

Overtime premium = Overtime pay - Basic rate

Multiply by the number of hours worked:

Overtime premium x hours worked = Total(1)

Next step is to calculate IDLE time:

IDLE x Basic rate = Total (2)

And then, calculate the basic wage of the indirect workers:

Worked hours x basic rate = Total (3)

Next, calculate the overtimepay for indirect workers:

Overtime x Overtime pay = Total (4)

Total indirect labour costs=Total(1)+Total(2)+Total(3)+Total 4.

Overheads

Made up of indirect materials,indirect labour & indirect expenses.Under absorption costing principles, production overheads of a business are absorbed into the cost of each of the products. The overheads absorption rate is:

OAR= Budgeted overheads / budgeted Level of activity

The overheads absorbed are:

OA= OAR x Actual activity