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Hetman



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Enterprise Economic Management

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Part 2. Budgeting

Topic 5. Budget management system in companies

Topic 6. Organization of budget management in companies

Topic 7. Technology of forming operating budget and budget of income and expenses

Topic 8. Cash flow management based on cash flow budgeting

Topic 9. Informational support for the enterprise budget management

What is a budget?

Based on a future plan of actions

Prepared in advance

Based on objectives to be attained

Expressed in monetary and/or physical units

Prepared for the implementation of policy formulated by the management



forecasts vs. budgets

FORECASTS

- Statement of probable events
- No control can be exercised
- Ends with assessment of probable events

BUDGETS

- Relates to planned events
- They connote a sense of control
- Start after making a forecast

Budgetary control

Means of control

Actual state of affairs is compared with the budget

Appropriate action is taken to correct deviations if any

Use of a budget to control a firm's activities is known as **BUDGETARY CONTROL**.



Budgetary control-objectives

Provide an organized procedure for planning

Coordinating all activities of various departments of a business firm

Maximum profit to be achieved by using minimum resources

Provides a means for determining the responsibility for all deviations from the plan (budget)

Supply information on the basis of which corrective action may be taken

Functions of budgeting

(i) Planning

(ii) Coordination

(iii) Communication

(iv) Control & Performance Evaluation

Planning



To ensure efficient & maximum use of scarce resources

Budget incorporates expected performance and present managerial targets

Target guides business operations, help in overcoming problems and analyzing the future

Influences the formulation of all business strategies

Subsequently assists business managers in executing such strategies

Coordination



Existence of a well laid plan thereby forcing executives to think of the relationships among individual operations & the company

Budgets broaden individual thinking by helping to remove unconscious biases on the part of engineers , sales and production officers.

Help to search out weaknesses in the organizational structure by isolating problems of communication, fixed responsibility and of working relationships

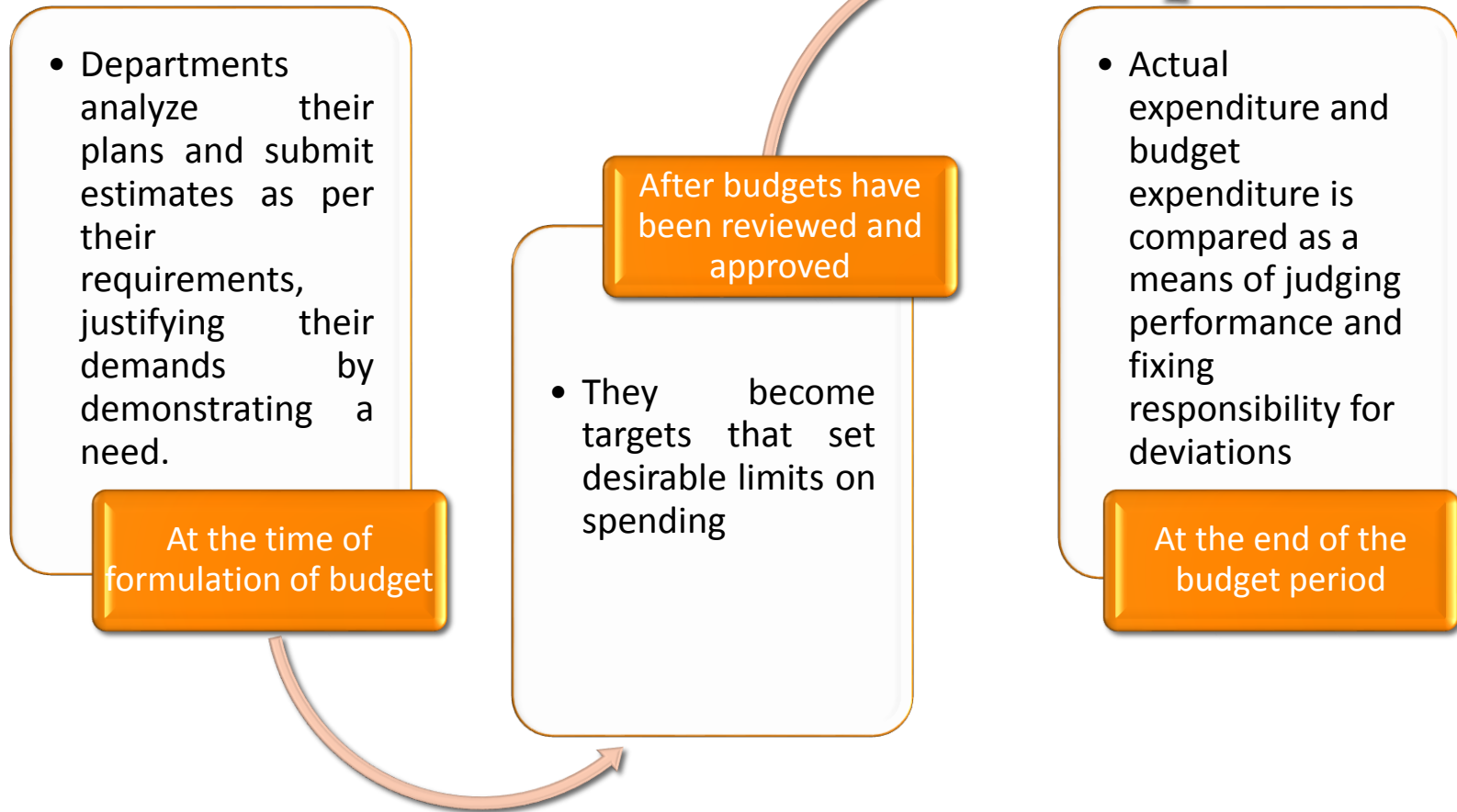
Communication

Budgets inform each other of what others have agreed to do

Also inform managers of the resources available to achieve objectives and targets



Control & performance evaluation



BUDGETING system-requirements

Essential requirements for sound budgeting:

Clear lines of defined authority & responsibility throughout the organization

Quantified organizational goal clearly stated

Participation of personnel in setting budgets motivates them to achieve budget levels of efficiency and activity.

Budget should be flexible designed to change in relation to the level of activity attained.

Budgeting system-requirements

Proper communication systems should be established for management reporting and information service

Education of the budget process and creation of a cost awareness atmosphere

Top Management's involvement in setting the budgets and targets, checking their actual attainment, motivating the personnel, rewarding achievements, investigating deviation and taking punitive actions.

Appointment of a Budgetary Controller

Advantages of budgeting

Basis for internal audit since regularly evaluating departmental results.

Wastages & Losses are avoided and thus maximum efficiency is attained

‘Management by exception’ reporting – reporting only the deviations from budgets

Management plans ahead to achieve long term goals

Increased communication & coordination in the firm

Motivated workforce because of their participation in setting of budgets

Advantages...

Identification of areas of efficiency & inefficiency

Acts as a yardstick for comparing actual performance

Establishes divisional & departmental responsibility, helps in identification of people responsible for deviation from budget

Managements with well ordered budget plan receive greater favour from credit agencies.

Extent of financing is predetermined thus avoiding possibility of over or under capitalization

Limitations of budgeting

Based on estimates, so total accuracy is not certain

Tend to be misleading in due course of time due to changes in market, technology etc.

Long term budgets suffer from inflexibility since managers would have to operate within the set limits

Complacency in managers if budgeted performance is easy to achieve

If perceived as pressure devices , work force can get demotivated

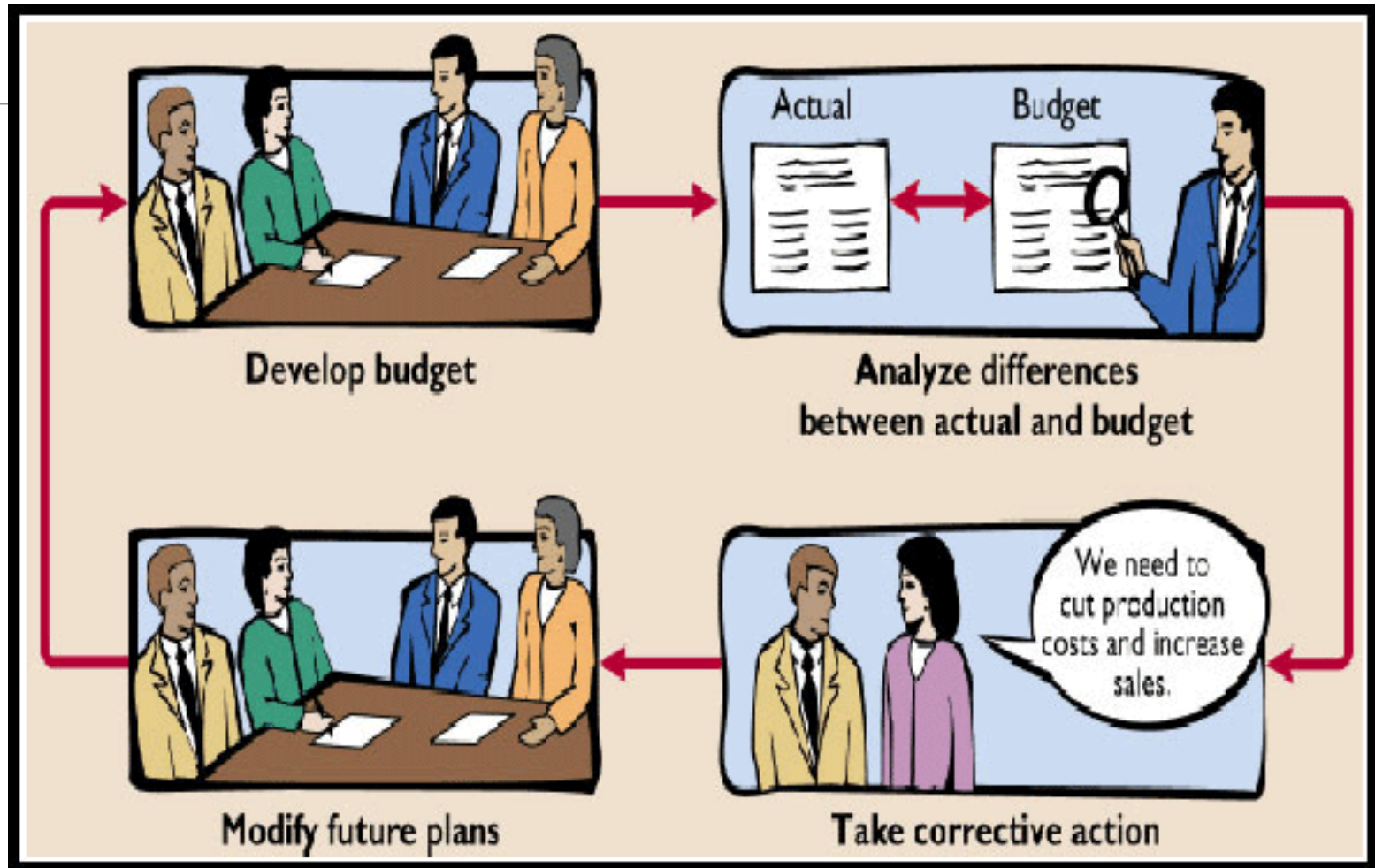
Limitations...

Overestimation of costs by managers saves them from being held responsible, in future, for overspending

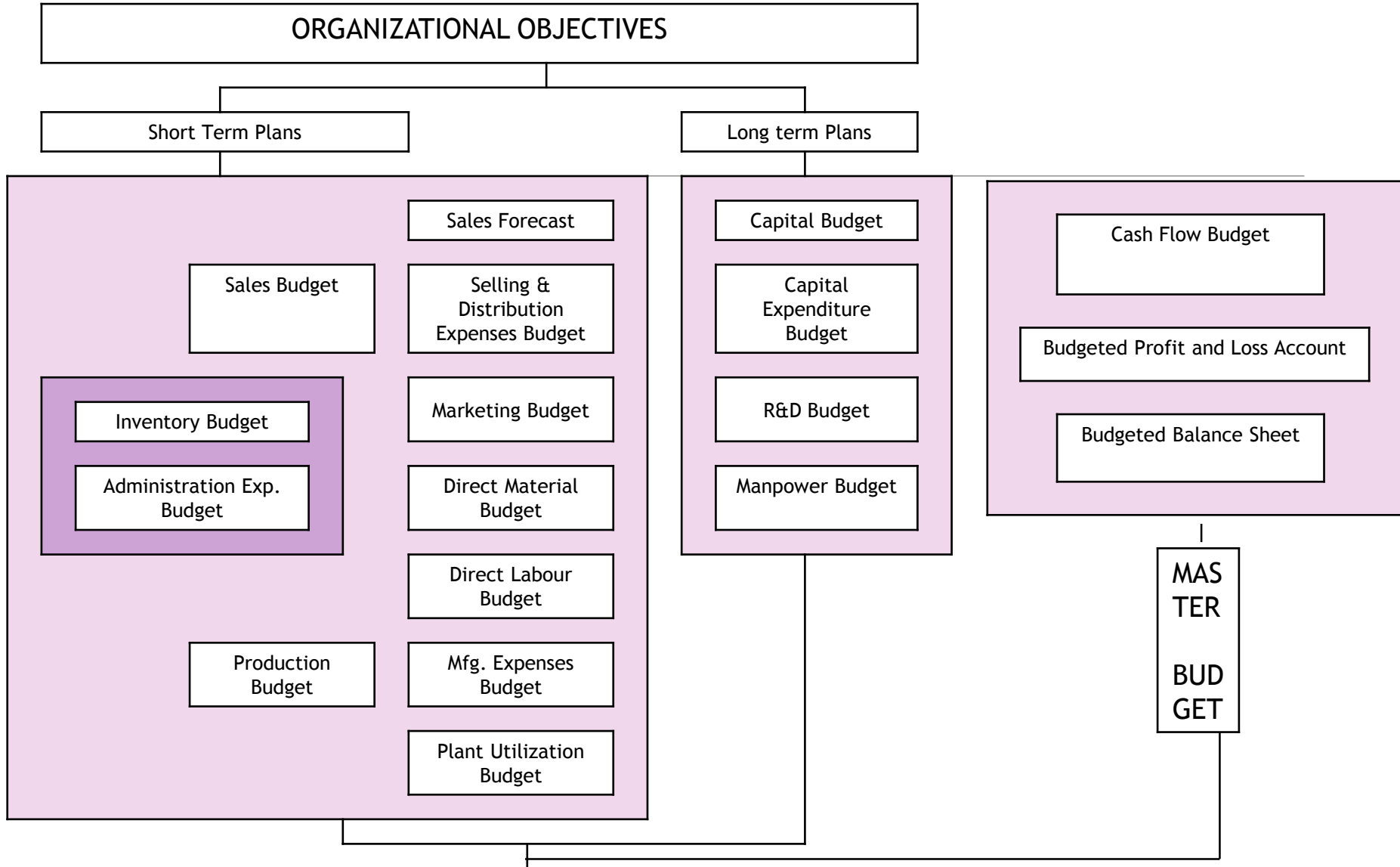
Departmental conflict arises because of competition for resource allocation

Short term perspective of the budget limits their perspective

Budgeting procedure



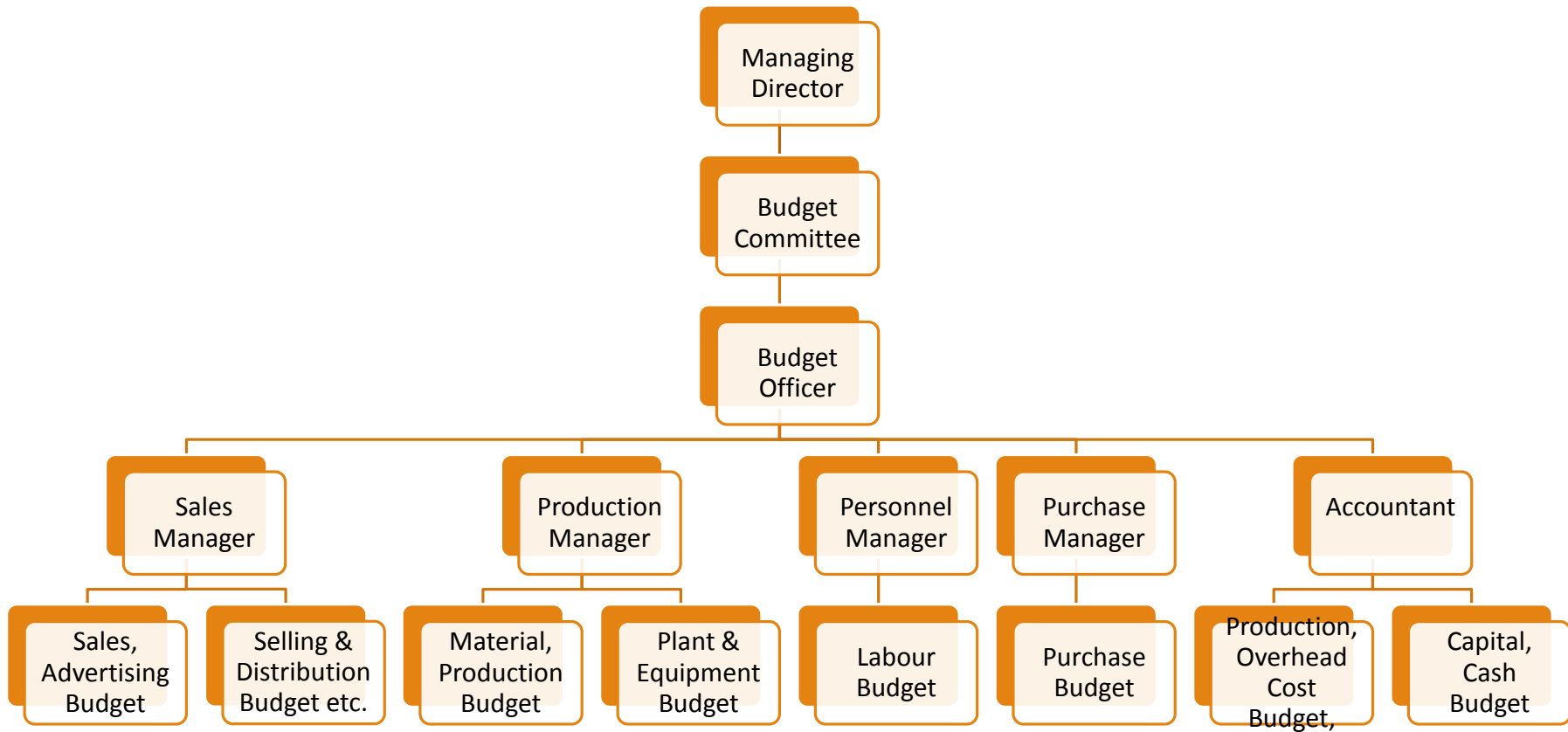
Budgeting process



Budgeting process - steps

- 1) Obtaining estimates of sales, production levels, expected costs and availability of resources from each sub unit/ division/ department.
- 2) Coordinating estimates: Determining potential of plans, estimate amount of resources available and their allocation
- 3) Communicating the budget to responsible managers and the concerned departments
- 4) Implementing the budget plan.
- 5) Reporting interim progress towards budgeted objectives

The Budget committee: Financial and Budget Structure



Budget committee – functions

To lay down general policies of management in relation to the budgetary system

To provide necessary information to various departments to prepare their budgets

To make available the advice and guidelines, if needed for the preparation of budgets

To receive & scrutinize budgets

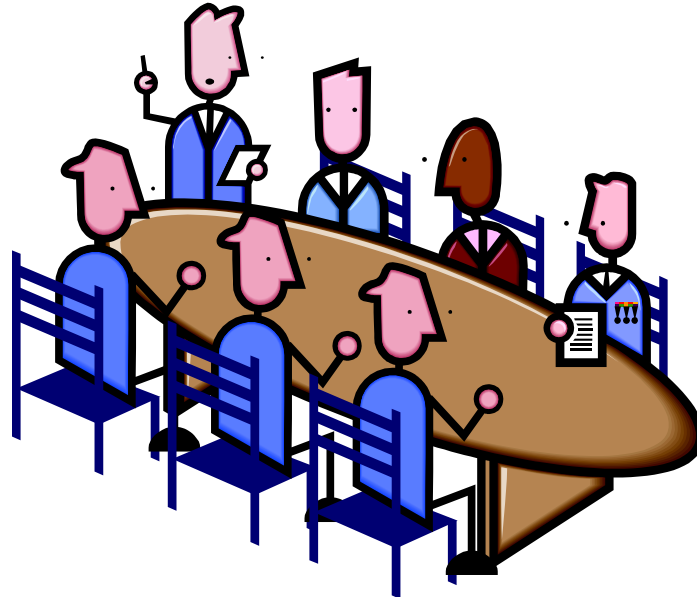
To evaluate & suggest lines of revisions and amendments where necessary

To formulate master budget

BUDGET COMMITTEE- FUNCTIONS...

To compare actual results with the budget estimates and to recommend corrective actions to be taken if required

To coordinate the budgetary program



Budget manual

A written document or booklet specifying the objectives of the budgeting organization and procedures. Important matters covered:

Objectives of the organization and how they can be achieved

Functions and responsibilities of each executive both regarding preparation & execution of budgets

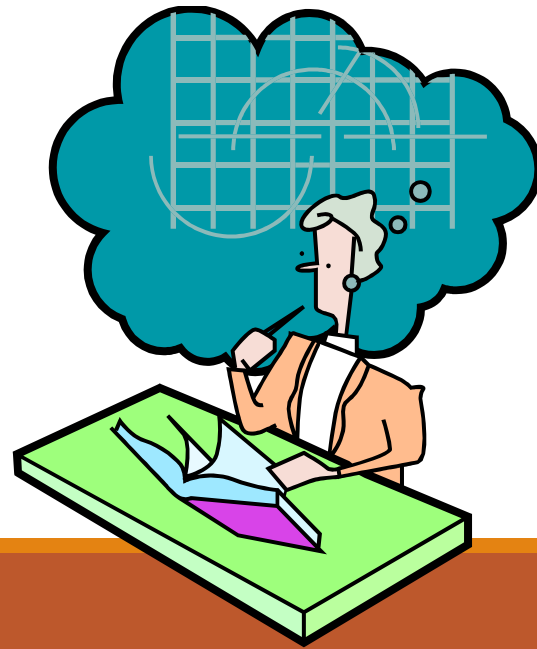
Procedure to be followed for obtaining the necessary approval of budgets

Time tables for all stages of budgeting

Budget manual...

Reports, statements, forms and other records to be maintained

The framework within which the costs, revenues and other financial amounts are classified must be identical both in accounts and budget departments.



Budget period

The length of the Budget period depends on:

The type of business

Length of the manufacturing cycle from raw material to finished product

Ease or difficulty of forecasting future market conditions and other factors

Financial cycle

However, a business enterprise generally prepares:

Short range budget

Long range budget

Budget centers

Created for administrative and control purposes

For a particular centre costs controllable by the person responsible for that centre should be precisely specified

Costs having joint responsibility such as work carried out by a maintenance department, should be kept separate from costs which can be controlled by one manager.

Costs apportioned between 2 or more budget centres should be controlled and 1 person should be made responsible

Budget key factor

Also called Limiting Factor

Influences the activities of an undertaking

Limits the volume of output

Has a direct impact on the profitability of the organization

Its limitation or shortage may result in restricting capacity utilization

May shift from time to time due to external and internal circumstances

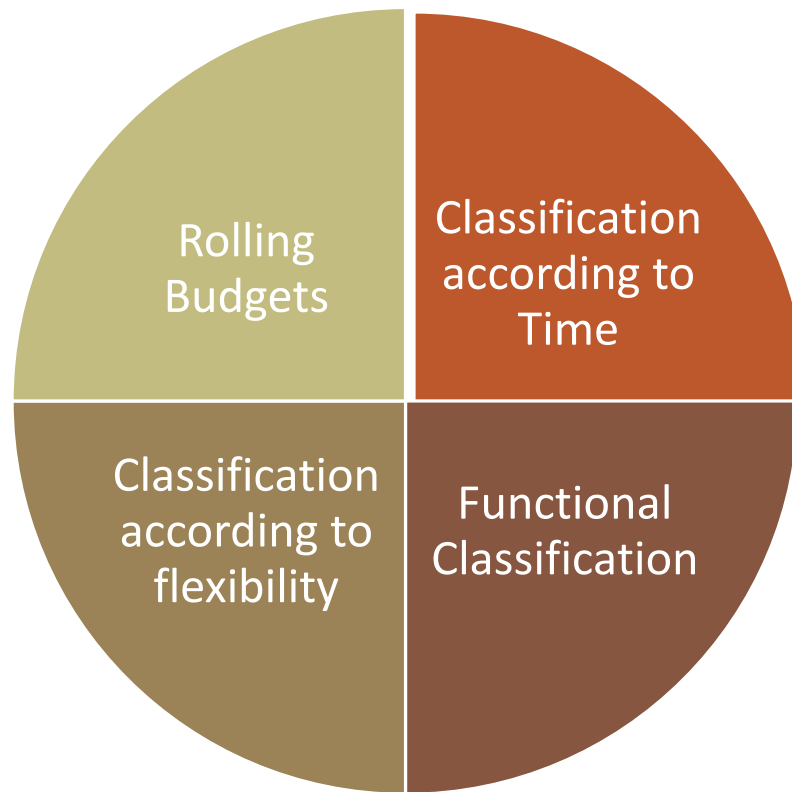
Key factors - examples

- (a) Sales
 - (i) Shortage of talented & experienced salesmen
 - (ii) Weak market demand or consumers' resistance
 - (iii) Inadequate advertising due to lack of funds
- (b) Materials
 - (i) Availability of supply
 - (ii) Constraints due to licenses & quotas
- (c) Labour
 - (i) Shortage of labour
 - (ii) Shortage in Labour related facilities
- (d) Plant & Equipment
 - (i) Limited capacity due to lack of capital
 - (ii) Inadequate capacity due to shortage of space
- (e) Management
 - (i) Overall inadequacy of capital
 - (ii) Limited availability of technical & managerial experts
 - (iii) Inadequate research efforts and product designing

Classification OF BUDGETS

Classification of budgets

Budgets may be classified on the following basis:



According to time

There may be 3 types of budgets:

Long Range Budgets

Short Range Budgets

Current Budgets



Long range budget

Cover periods extending beyond 1 year. Factors to be considered are:

Market trends, economic factors, growth of population, consumption pattern, industrial production, national income, government economic and industrial policy



Likewise, a Balance Sheet for many years can be prepared to forecast cash, inventory levels, accounts receivable/ payable, liabilities etc.

Short range budget

Cover periods of 3, 6 or 12 months depending upon the nature of business. Factors to be considered are:

Period should be long enough to complete production of various products

For a seasonal business, it should cover at least one entire seasonal cycle

Should allow financing of production as well in advance of actual needs.

Should coincide with the financial accounting period to facilitate comparison and interpretation of actual results

Current budgets

Very short term budgets

Covering a period of one month or so

Prepared considering current conditions or prevailing circumstances



Rolling budgets

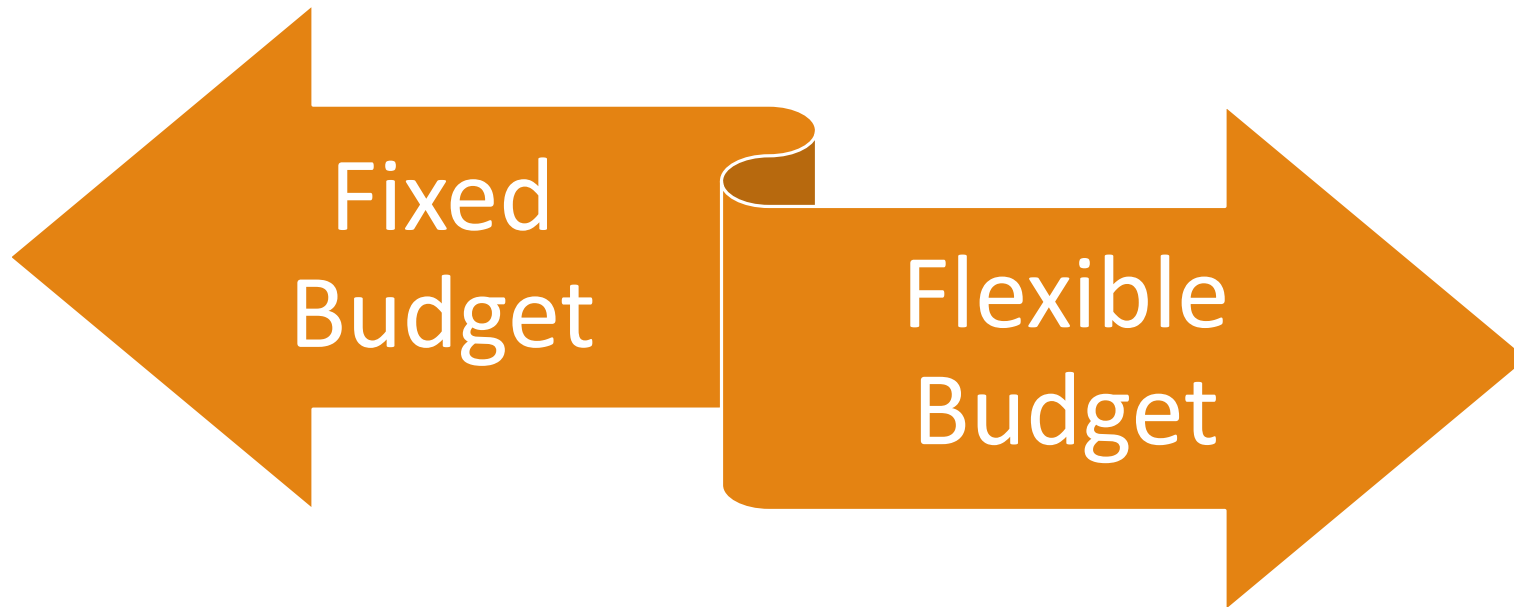
Also known as Progressive Budget

There will always be a budget for a year in advance

New budget prepared at the end of each month / quarter for a full year ahead.

Figures for the month or quarter which has rolled down are dropped and the figures for the next month or quarter are added

According to flexibility



Fixed budget

Designed to remain unchanged irrespective of the level of activity actually attained

Based on a single level of activity

Cannot be used for the purpose of cost control since actual output is often significantly different from budgeted output

Since units are overlooked, a cost to cost comparison without considering the units may give misleading results.

Flexible budgets

Prepared for a range i.e., more than one level of activity

Set of alternative budgets to different expected levels of activity

Provides a reliable basis for comparisons as it is automatically geared to changes in production activity

Facilitates development of departmental expense budgets

Provides expense goals for managers of responsibility centres

Example 1

Budget estimates of a plant servicing department:

Items of Cost	Planned at 6000 service hour (\$)	Planned at 9000 service hour (\$)
Salaries	28,000	28,000
Indirect Materials	42,000	63,000
Miscellaneous Costs	16,000	20,500

Required:

A flexible budget for the department for 7,000, 8,000 and 9,500 service hours

Solution 1

Flexible budget of the department

	7,000 Service Hours (\$)	8,000 Service Hours (\$)	9,500 Service Hours (\$)
Salaries (fixed)	28,000	28,000	28,000
Indirect Materials (Variable at \$7 per hour)	49,000	56,000	66,500
Miscellaneous Costs:			
Variable at \$1.5 per hour	10,500	12,000	14,250
Fixed	7,000	7,000	7,000
	94,500	1,03,000	1,15,750

Solution 1: working notes

Indirect materials:

Increase in cost = \$63,000 - \$42,000

= \$21,000

Increase in Service Hours = 9000 - 6000

= 3000 hours

Variable portion of indirect material = \$21,000 / 3000 hrs.

= \$7 per hour

Indirect material at 6000 hrs. = 6000 × \$7

= \$42,000

Indirect materials at 9000 hrs. = 9000 × \$7

= 63,000

- ◎ Similar procedure to be followed for miscellaneous costs

Functional/ operating budgets

Main functional/ operating budgets are:

- 1) Sales Budget
- 2) Production Budget
- 3) Direct Material Usage Budget
- 4) Direct Material Purchase Budget
- 5) Direct Labour Cost Budget
- 6) Factory Overhead Budget
- 7) Plant Utilization Budget
- 8) Production Cost Budget
- 9) Stock Budget
- 10) Cost of goods sold Budget
- 11) Administration Cost Budget
- 12) Selling & Distribution Costs Budget
- 13) R&D Cost Budget
- 14) Capital Expenditure Budget
- 15) Cash Budget
- 16) Master Budget

Sales budget

Often the first budget since the limiting factor is usually sales

Is a forecast of the sales for the year

Must be prepared both in quantities and amounts

Must be analyzed for products, territories, types of customers and seasons

Must be supplemented by an estimate of selling & distribution costs

All other budgets are contingent upon sales budget

Factors to be considered

1. Past sales figures and trends
2. Salesmen's estimates
3. Plant capacity
4. General trade prospects
5. Orders on hand
6. Proposed expansion or discontinuance of products
7. Seasonal fluctuations
8. Potential market
9. Availability of material and supply
10. Factors such as govt. controls, competition etc.

Example 2

ABC Ltd. Manufactures two pens under the names 'Bright' and 'Hans'. The sales budgets for the year ending 31st Dec 14 were:

	Department I	Department II	Department III
Bright (S.P. \$ 3)	3,00	5,625	1,80
Hans (S.P. \$1.20)	4,00	6,00	20,00

- Forced sales promotion will increase the sale of 'Hans' in Deptt. I by 1,75.
- By increasing production and arranging extensive ads sale of 'Hans' in Deptt. III will increase by 50,000.
- Sales in Deptt. II is an unsatisfactory target.
- It is agreed to increase both estimates by 20%.
- Prepare sales budget.

ABC Ltd. Manufactures two pens under the names 'Bright' and 'Hans'. The sales budget for the year ending 31st Dec 14 is

	Bright @ \$ 3.00		Hans @ \$ 1.20		Total
	Quantity, l	\$	Quantity, l	\$	\$
Department I	3,00	9,00	5,75	6,90	15,90
Department II	6,75	20,25	7,20	8,64	28,89
Department III	1,80	5,40	0,70	8,40	6,24
Total	11,55	34,65	13,65	16,38	51,03

Production budget

Drawn up after taking into account expected opening stock, estimated sales, desired closing stock of each article

Requirements of raw materials for each article have to be laid down

Time & motion studies help in finding out time needed for each type of worker

Machine requirements are carefully listed

In addition to these, a budget for other expenses will be necessary

Example 3

ABC Co. plans to sell 1,08,000 units of certain product in first fiscal quarter, 1,20,000 units in 2nd quarter; 1,32,000 in 3rd qtr. & 1,56,000 units in 4th qtr. And 1,38,000 units in the 1st qtr. Of the following yr. At the beginning of the 1st qtr. Of the current year, there are 18,000 units of product in the stock. At the end of each qtr. the company plans to have an inventory equal to one-sixth of the sales for the next fiscal qtr.

How many units must be manufactured in each qtr.?

Solution 3

ABC COMPANY Production Budget

	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
	Units	Units	Units	Units
Sales Budget	1,08,000	1,20,000	1,32,000	1,56,000
<i>Add:</i> Stock required at the end of period	20,000	22,000	26,000	23,000
Total	1,28,000	1,42,000	1,58,000	1,79,000
<i>Less:</i> Stock in the beginning	18,000	20,000	22,000	26,000
Estimated Production	1,10,000	1,22,000	1,36,000	1,53,000

Direct material usage budget

Shows quantities of materials required in budgeted production

Also shows level of material stocks to be maintained at the end of the period



Example 4

Estimated sales during next year will be 40,000 units. Materials required will be 3 units of A and 5 units of B for each unit sold.

Estimated opening balances at the beginning of the next year

Finished Product	5,000 units	Materials on order:	
Material A	12,000 units	Material A	7,000 units
Material B	20,000 units	Material B	11,000 units

The desirable closing balances at the end of the next year:

Finished Product	7,000 units	Materials on order:	
Material A	15,000 units	Material A	8,000 units
Material B	25,000 units	Material B	10,000 units

Draw a Material Procurement Budget

Solution 4

Materials Procurement Budget (Quantitative)

	A		B	
Units of material required		1,26,000		2,10,000
<i>Add:</i> Closing Stock required	15,000		25,000	
Materials on order	8,000	23,000	10,000	35,000
		1,49,000		2,45,000
<i>Less:</i> Opening Stock	12,000		20,000	
Materials on order	7,000	19,000	11,000	31,000
Units to be purchased		1,30,000		2,14,000

Note: The total production required for the year (42,000) has been calculated as: Estimated sales (40,000) + Closing Stock (7,000) – Opening Stock (5,000)

Materials Required : A = 42,000 x 3 = 1,26,000

B = 42,000 x 5 = 2,10,000

Direct material purchase budget

It shows the quantity of raw material which should be available at a particular time

Also the estimated cost of the material

Provides a plan that enables the purchase department to purchase the required material sufficiently in advance



Example 5

Estimates of raw material inventory:

Type of Material	Qty. as on 1.1.15	Price as on 1.1.15, \$	Amount as on 1.1.15, \$	Qty. as on 31.12.15, \$
L	700 units	3.00	2,100	800 units
M	15 tons	35.00	525	7 tons
N	1,500 Kg	0.75	1,125	1,050 Kg
O	800 liters	1.00	800	750 liters
P	10,500 units	0.20	2,100	600 units

Consumption of different types of raw material for various departments:

Material	Departments			
	I	II	III	IV
L (units)	4,500	-	3,000	500
M (tons)	11	3	-	4
N (Kg)	-	600	700	1,350
O (liters)	350	700	-	-
P (units)	5,600	6,300	1,500	800

Solution 5

Purchase Budget

Material	Units	Opening Stock	Exp. Consumption	Closing Stock	Requirements	Price	Budget
L	Units	700	8,000	800	8,100	3.00	24,300
M	Tons	15	18	7	10	35	350
N	Kgs	1,500	2,650	1,050	2,200	0.75	1,650
O	Liters	800	1,050	750	1,000	1.00	1,000
P	Units	10,500	14,200	600	4,300	0.20	860
							28,160

Direct labor cost budget

A part of production budget

Contains an estimate of all direct labor cost required to produce budgeted products

Labor of different grades are ascertained in terms of labor hour, machine hours and wage rate

Total labor cost is ascertained accordingly i.e., budgeted output multiplied by labor cost per unit

Example 6

Labor hour requirements of 3 products manufactured in a factory:

Products	Direct labor hours per unit (in minutes)			
		1	2	3
Operation	1	18	42	30
	2	-	12	24
	3	9	6	-

The factory works 8 hours per day, 6 days in a week. Budget qtr. is 13 weeks and during a qtr. lost hours due to leave etc. are 124 hrs.

Budgeted hourly rates for workers for operation I, II and III are Rs. 2.00, Rs. 2.50 and Rs. 3.00.

Budgeted sales: Product 1: 9,000 units; Product 2: 15,000 units; Product 3: 12,000 units. A carry over of 5,000 units of Product 2 and 4,000 units of Product 3 and stock at the end of the budget qtr.: Product 1: 1,000 units; Product 3: 2,000 units.

Prepare (i) direct labor hours, (ii) direct labor cost and (iii) number of workers

Solution 6

Quarterly Man-Power Budget

Operation	Hrly. Rate (Rs.)	Product 1		Product 2		Product 3		Total		No. of workers
		D.L. Hrs.	Cost Rs.	D.L. Hrs.	Cost Rs.	D.L. Hrs.	Cost Rs.	D.L. Hrs.	Cost Rs.	
I	2.00	3,000	6,000	7,000	14,000	5,000	10,000	15,000	30,000	30
II	2.50	-	-	2,000	5,000	4,000	10,000	6,000	15,000	12
III	3.00	1,500	4,500	1,000	3,000	-	-	2,500	7,500	5
Total		4,500	10,500	10,000	22,000	9,000	20,000	23,500	52,500	47

Production Budget

Working Notes: 1

Product	1 Units	2 Units	3 Units
Sales	9,000	15,000	12,000
Add: Closing Stock	1,000	-	2,000
Less: Opening Stock	-	5,000	4,000
Production Budget	10,000	10,000	10,000

Solution 6 – Working notes...

Note 2: Total available hours in a quarter per man

Total Hours	=	8 x 6 x 13	=	624
Less: Hours lost due to leave etc.	=			<u>124</u>
Total available hours per man	=			<u>500</u>

- ⦿ Note 3: The calculation of direct labour hours, direct labour cost and number of men has been made as:

$$\text{Direct Labour hours} = \frac{18 \times 10,000}{60} = 3,000$$

$$\text{Direct Labour Cost} = 3,000 \text{ hours} \times \text{Rs. } 2 = \text{Rs. } 6,000$$

$$\begin{aligned} \text{Number of men required} &= \frac{\text{Direct Labour hours required}}{\text{Total available hours per man}} = \frac{15,000}{500} \\ &= 30 \text{ men} \end{aligned}$$

Similarly calculations have been made for other products

Factory overhead budget

Shows the forecast of all production overheads

Production overheads divided between fixed, variable and semi variable factory overheads

Fixed overheads increase with an increase in capacity or size of the factory

Variable & Semi variable change with the level of activity

Factory overheads distributed among production and service deptts. and thereafter service deptt. overheads are reallocated to production deptt.

Budget allowance

Amount of overhead which a budget centre or department is expected to incur during a given period of time

Different from overhead absorption as the latter is the process of recovery of overheads from production at a pre-determined rate



Example 7

Accounting year of ABC Cosmetics starts from 1st April 2009.
Estimates of items of factory overhead costs are:

Volume of Production (in units)	1,20,000	1,50,000
Expenses:		
Indirect Materials	Rs. 2,64,000	Rs. 3,30,000
Indirect Labour	1,50,000	1,87,500
Maintenance	84,000	1,02,000
Supervision	1,98,000	2,34,000
Engineering Services	94,000	94,000

Calculate the cost of factory overhead items given above at 1,40,000 units of production.

Solution 7

Factory Overhead Budget

(Production 1,40,000 units)

	Rs.	Rs.
Indirect Material (Variable @ Rs. 2.20 per unit)		3,08,000
Indirect Labour (Variable @ Rs. 1.25 per unit)		1,75,000
Maintenance: Fixed	12,000	
Variable	84,000	96,000
Supervision: Fixed	54,000	
Variable	1,68,000	2,22,000
Engineering Service (Fixed)		94,000
		8,95,000

$$\text{Variable Cost per unit} = \frac{\text{Change in Expenses}}{\text{Change in output}}$$

Plant utilization budget

Represents the plant & machinery requirements to meet the production budget

Will show the load of machine in each department

Shows the extent of under and over loading on plant & machinery and corrective measures may be taken on time.



Example 8

3 articles X,Y & Z are produced in a factory. They pass through 2 cost centres A & B. Sale budget for the year

Product	Annual Budgeted Sales (units)	Opening stock of finished product (units)	Closing Stock
X	4,800	600	Equivalent to 2 month sales
Y	2,400	300	Equivalent to 2 month sales
Z	2,400	800	Equivalent to 2 month sales

Machine hours per unit of production

	Cost Centre A	Cost Centre B
Product X	30	70
Product Y	200	100
Product Z	30	20

Total No. of machines in Cost Centre A are 284 and Cost Centre B are 256; total no. of working hours during the year are estimated 2,500 hours per machine. Compile a statement for budgeted machine utilization in both centres.

Solution 8

Production Budget

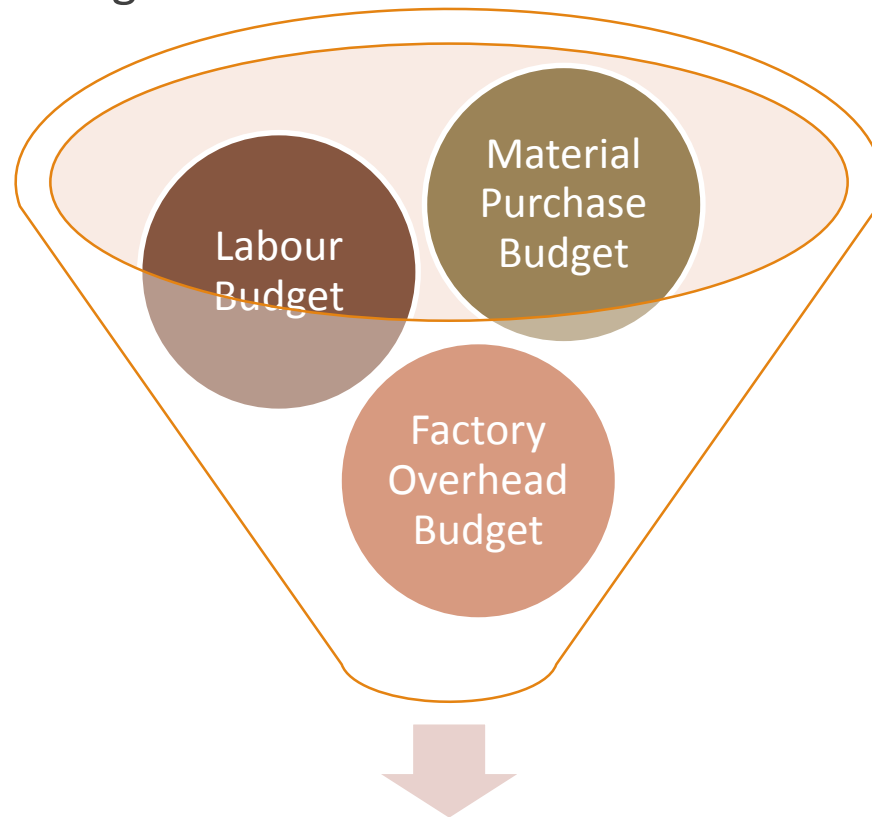
Product	Sales (units)	Closing Stock (units)	Opening Stock (units)	Production Budget: Sales + Closing Stock - Opening Stock
X	4800	800	600	5000
Y	2400	400	300	2500
Z	2400	400	800	2000

Machine Utilization Budget

Product	Units of production	Cost Centre A			Cost Centre B			
		Hours per units	Total Machine Hours	No. of machine required	Hours per units	Total Machine Hours	No. of machine required	
X	5000	30	1,50,000	60	70	3,50,000	140	
Y	2500	200	5,00,000	200	100	2,50,000	100	
Z	2000	30	60,000	24	20	40,000	16	
			7,10,000	284			6,40,000	256
No. of Machine x hours			284 x 2500 =7,10,000				256 x 2500 =6,40,000	

Production cost budget

A combination of 3 budgets



Production Cost Budget

Example 9

Prepare a production budget for each month and a summarized Production Cost Budget for the 6 months period ending 31st Dec 2009. The units to be sold for different months are:

Jul'09	Aug'09	Sep'09	Oct'09	Nov'09	Dec'09	Jan'10
1,100	1,100	1,700	1,900	2,500	2,300	2,000

There will be no work in progress at the end of any month

Finished units in stock will be equal, at the end of each month, of half the sales for the following month.

Budgeted production & production cost for the year ending:

Production (units)	22,000
Direct Materials per unit	Rs. 10.00
Direct wages per unit	Rs. 4.00
Total factory overhead apportioned to product	

Variable per unit - Rs. 1.50, Fixed per unit Rs. 2.50

Solution 9

Production Budget for Product X- 6 months ending 31 Dec '09

	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Estimated Sales	1,100	1,100	1,700	1,900	2,500	2,300	10,600
Add: Desired Closing Stock	550	850	950	1,250	1,150	1,000	1,000
	1,650	1,950	2,650	3,150	3,650	3,300	11,600
Less: Likely Opening Stock	550	550	850	950	1,250	1,150	550
	1,100	1,400	1,800	2,200	2,400	2,150	11,050

PRODUCTION COST BUDGET

	Rate per unit Rs.	Total Rs.
Direct Materials	10.00	1,10,500
Direct Wages	4.00	44,200
Variable Overheads	1.50	16,575
Fixed Overheads		27,500
Total	$\left(\frac{22,000 \times 2.50}{2}\right)$	<u>1,98,775</u>

Stock budgets

Prepared in respect of stocks of raw material, work-in-progress and finished goods

Closing stocks are shown in terms of quantity as well as money

Finished stock is based on per unit cost of production



Cost of goods sold budget

Prepared to depict budgeted cost of goods meant for sales

Prepared by adjusting cost of production by opening or closing stocks of finished goods

May also be prepared product wise.



Administration cost budget

Shows estimated expenditure of administration, offices and management remunerations during the budget period

Budgets prepared by several departments or budget centres are incorporated in this budget

Expenditure may also be classified into fixed and variable overheads estimated on the basis of past records and future plans



Selling & distribution budget

Forecast of all expenses incurred in selling and distribution function during the budget period

Closely connected with sales budget as it is based on the volume of sales projected

May be certain expenses which cover future budget period such as advertising



Example 10

Prepare sales overhead budget

Advertising	Rs. 2,500
Salaries of the sales department	Rs. 5,000
Expenses of sales department	Rs. 1,500
Counter salesmen's salaries & dearness allowances	Rs. 6,000
Commission to counter salesmen at 1% on their sales	
Travelling salesmen's commission at 10% on their sales and expenses at 5% on their sales.	

Sales during the period were:

Counter Sales (Rs.)	Travelling salesmen's salaries (Rs.)
Period I 80,000	10,000
Period II 1,20,000	15,000
Period III 1,40,000	20,000

Solution 10

Sales Overhead Budget

Estimated Sales	Rs. 90,000	Rs. 1,35,000	Rs. 1,60,000
Fixed Overheads:			
Advertising	2,500	2,500	2,500
Salaries of sales deptt.	5,000	5,000	5,000
Expenses of Sales deptt.	1,500	1,500	1,500.
Counter salesmen's salaries & D.A.	6,000	6,000	6,000
	15,000	15,000	15,000
Variable Overheads:			
Counter salesmen's commission (1% on sales)	800	1,200	1,400
Travelling salesmen's commission @ 10%	1,000	1,500	2,000
Expenses (5%)	500	750	1,000
	2,300	3,450	4,400
Total Sales Overheads	17,300	18,450	19,400

Research & development budget

Research: to find new products and to find new ways of old products

Drawn up taking into account the research projects in hand and the new projects to be taken up

Also necessitates the analysis of expenses into fixed & variable

Normally a long term budget, not part of production budget

Prepared for each project separately and sub divided into short term budgets on annual basis

Capital expenditure budget

Shows how much machine capacity is needed and when, determines what new machines have to be installed and at what time

Capital expenditure may be avoided by getting some work done by outsiders

May be short term or long term

Availability of capital fund is a limiting factor

It must be coordinated with each budget as in the cash budget, provision for cash required for capital expenditure has to be made and in factory overhead, provision for repairs, maintenance, insurance etc.

Cash budget

A summary statement of the firm's expected cash inflows and outflows over a projected time period

Helps in determining the future cash needs of the firm

Helps in planning for financing of those needs

Helps in exercising control over cash & liquidity of the firm

Overall objective is to enable the firm to meet all its commitments in time and preventing accumulation of unnecessary large balances with it

Preparing a cash budget



Receipts & payments method

The cash receipts from various sources and cash payments to different agencies are estimated

Receipts & Payments are divided into capital & revenue

In the opening balance of cash of a period, cash receipts are added and the estimated cash payments are deducted to find out the closing balance which will become the opening balance of cash for the next period

Example 11

Prepare cash budget for May, June & July'xx

Income & Expenditure Forecasts						
Month	Credit Sales	Credit Purchases	Wages	Manufacturing Expenses	Office Expenses	Selling Expenses
March	60,000	36,000	9,000	4,000	2,000	4,000
April	62,000	38,000	8,000	3,000	1,500	5,000
May	64,000	33,000	10,000	4,500	2,500	4,500
June	58,000	35,000	8,500	3,500	2,000	3,500
July	56,000	39,000	9,500	4,000	1,000	4,500
August	60,000	34,000	8,000	3,000	1,500	4,500

Cash balance on 1st May 'xx: Rs. 8,000. Plant costing Rs. 16,000 is due for delivery in July, payable 10% on delivery and the balance after 3 months. Advance Tax: Rs. 8,000 is payable in March & June. Period of credit allowed (i) by suppliers - 2 months and (ii) to customers - 1 month. Lag in payment of manufacturing expenses - ½ month, office & selling expenses - 1 month

Solution 11

CASH BUDGET

Particulars	May '10	June '10	July '10
Opening Balance	8,000	13,750	12,250
Estimated Cash Receipts			
Debtors (Credit Sales)	62,000	64,000	58,000
	<u>70,000</u>	<u>77,750</u>	<u>70,250</u>
Estimated Cash Payments			
Creditors (Credit Purchases)	36,000	38,000	33,000
Wages	10,000	8,500	9,500
Manufacturing Expenses	3,750	4,000	3,750
Office Expenses	1,500	2,500	2,000
Selling Expenses	5,000	4,500	3,500
Plant - payment on delivery	-	-	1,600
Advance Tax	-	8,000	-
Total	<u>56,250</u>	<u>65,500</u>	<u>53,350</u>
Closing Balance	13,750	12,250	16,900

One-half of the manufacturing expenses of April and one-half of those of May shall be paid in May i.e., (1/2 of Rs. 3,000) + (1/2 of Rs. 4,500) i.e., Rs. 3,750 and so on...

Adjusted p&l account method

A cash forecast is prepared starting with the Net Profit/ Net loss

All non-cash items of income and expenses are eliminated from this figure

Adjustment for changes in the cash position are made as a result of forecasted changes in the Balance Sheet

This method is based on the assumption that cash is available due to profit

Method more useful in long term forecasting

Example 12

Prepare a projected P&L A/c for 2010. If 75% of the net cash flow is estimated as the fair amount for repayment of loan, ascertain the sum that may be borrowed

PROFIT & LOSS ACCOUNT

	2008 (Rs.)	2009 (Rs.)
To Opening Stock	80,000	1,00,000
To raw material	3,00,000	4,00,000
To stores	1,00,000	1,50,000
To manufacturing Expenses	1,00,000	1,20,000
To other expenses	1,00,000	1,30,000
To depreciation	1,00,000	1,00,000
To Net Profit	1,30,000	1,60,000
	<u>9,10,000</u>	<u>11,60,000</u>
By sales	8,00,000	10,00,000
By closing stock	1,00,000	1,50,000
By Misc. Income	10,000	10,000
	<u>9,10,000</u>	<u>11,60,000</u>

Sales are expected to increase to Rs. 12,00,000 along with which raw materials, stores and manufacturing expenses are expected to rise. Other expenses will increase by Rs. 50,000. Depreciation constant. Sales & Purchases in cash. Closing stock will increase. No dividend is paid

Solution 12

Projected P&L A/c for the year ending 2010

	Rs.		Rs.
To opening stock	1,50,000	By sales	12,00,000
To raw material	5,00,000	By closing stock	2,00,000
To stores	2,00,000	By misc. income	10,000
To Mfg. expenses	1,40,000		
To other expenses	1,80,000		
To depreciation	1,00,000		
To net profit	1,40,000		
	14,10,000		14,10,000

Cash Flow Statement

Net Profit	Rs. 1,40,000
Non cash charges items: Depreciation	Rs. 1,00,000
Cash in Flow	Rs. 2,40,000

As 75% of the net cash flow is estimated as the fair amount for repayment of loan, the amount of loan will be 75% of Rs. 2,40,000 i.e., Rs. 1,80,000, if the loan is to be repaid within 1 yr.

Balance sheet method

Used in long term forecasting

Method similar to P&L Method

A budgeted Balance Sheet is prepared showing all items of assets & liabilities at the end of the budgeted period

Balancing figure on the asset side is taken as the cash balance at the end of that period

If there is excess of asset side, the balance will be bank overdraft

Example 13

- Prepare a cash budget showing cash at bank on 31.12.2010

Balance Sheet as at 1.1.10

Liabilities	Rs.	Assets	Rs.
Share Capital	2,50,000	Land & Buildings	1,50,000
Capital Reserve	25,000	Plant & Machinery	1,00,000
Profit & Loss Account	45,000	Furniture	25,000
Debentures	50,000	Closing Stock	20,000
Creditors	1,44,000	Debtors	1,30,000
Accrued Expenses	1,000	Bank	90,000
	5,15,000		5,15,000

The following additional information:

- Share Capital issued Rs. 50,000
- Debenture Issued Rs. 10,000
- On 31st Dec '10, accrued expenses were Rs. 2,500. Debtors 1,00,000, Creditors 1,50,000 and Land & Buildings Rs. 2,00,000

Example 13...

Trading and P&L A/c for the year ending 31.12.10

	Rs.		Rs.
To opening stock	20,000	By Sales	4,00,000
To purchased	3,00,000	By closing stock	50,000
To Gross Profit c/d	1,30,000		
	<u>4,50,000</u>		<u>4,50,000</u>
To salary and wages 12,500		By gross profit b/d	1,30,000
outstanding <u>2,500</u>	15,000	By interest received	500
To depreciation			
Plant & Machinery 10,000			
Furniture & Fixtures <u>5,000</u>	15,000		
To administrative expenses	17,500		
To selling expenses	12,500		
To Net Profit c/d	70,500		
	<u>1,30,500</u>		<u>1,30,500</u>
To dividend paid	50,000	By balance	45,000
To balance c/d to B/Sheet	65,000	By Net Profit b/d	70,500
	<u>1,15,500</u>		<u>1,15,500</u>

Solution 13

Forecasted Balance Sheet as at 31.12.10

Liabilities	Rs.	Assets	Rs.
Share Capital	3,00,000	Land & Buildings	2,00,000
Capital Reserve	25,000	Plant & Machinery	90,000
Profit & Loss Account	65,500	Furniture & Fixtures	20,000
Debentures	60,000	Closing Stock	50,000
Creditors	1,50,000	Debtors	1,00,000
Accrued Expenses	2,500	Bank Balance(Bal. figure)	1,43,000
	6,03,000		6,03,000

Master budget

is the summary budget, incorporating its component functional budgets, which is finally approved, adopted and employed.

It is prepared in 2 parts; Forecast Income Statement and Forecast Balance Sheet

It is an outlay showing the proposed activity and the anticipated financial results during the coming year or budgeted year.

After approval by Board of Directors, various functional budgets are sent to the concerned departments, so that they can plan their working according to their budgets.

Example 14

Sales:

Toughened Glass	Rs. 3,00,000
Bent-toughened glass	Rs. 5,00,000
Direct Material Cost	60 % of sales
Direct Wages	20 workers @ Rs. 150 per month
Factory Overheads:	
Indirect Labour:	
Works Manager	500 per month
Foreman	400 per month
Stores & Spares	2 ¹ / ₂ % on sales
Depreciation on Machinery	Rs. 12,600
Light & Power	5,000
Repairs & Maintenance	8,000
Other Sundries	10% on Direct Wages
Administration, Selling & Distribution Expenses:	Rs. 14,000 per year. Calculate & present the budget for the next year.

Solution 14

Master Budget (for the period ending on...)

Particulars		Rs.
Sales (as per Sales Budget)		
Toughened Glass Units @ Rs....		3,00,000
Bent Toughened Glass ... units @ Rs....		<u>5,00,000</u>
		8,00,000
Less: Cost of Production (as per cost of production budget)		
Direct Material (... units @ Rs....)	Rs. 4,80,000	
Direct wages	<u>36,000</u>	
	Prime Cost	5,16,000
Factory Overheads		
Variable:		
Stores & Spares (2 ^{1/2} % of sales	20,000	
Light & Power	5,000	
Repairs & Maintenance	<u>8,000</u>	33,000
Fixed:		
Works Manager's Salary	6,000	
Foremen's Salary	4,800	
Depreciation	12,600	
Sundries	<u>3,600</u>	27,000
	Works Cost	5,76,000
	Gross Profit	2,24,000
Less: Administration, Selling & Distribution Ovreheads		<u>14,000</u>
	Net Profit	<u>2,10,000</u>