

Lesson 7

Budgeting- Functional budget & Flexible budget

7.1 Introduction

A budget may be defined as a quantitative statement, for a defined period of time which may include planned revenues, expenses, assets, liabilities and cash flows. It provides a focus for the organisation and is part of the strategic process.

7.2 Learning Outcomes

By the end of this lesson, you should be able to:

- understand the importance of planning and budgeting;
- describe the key steps in the budgeting process;
- apply different types of budget in business environment to enhance decision making; and,
- discuss the issues associated with the behavioural aspects of budgeting.

7.3 Required Readings

Drury, Chapter 22

7.4 Points to Ponder/Takeaways

Budgeting	A budget is a quantitative expression of a proposed plan of action by management for a specific period.
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7.5 Learning Material

1. Definition

A budget is a quantitative expression of a proposed plan of action by management for a specific period.

It covers both financial and non-financial aspects of the plan. It serves as a blueprint for the company.

1.1 understand the importance of planning and budgeting

Planning has both a long-term and a short-term horizon and, most importantly, both should be linked to ensure that what happens today supports the future direction of the entity. **Strategic planning** relates to longer term planning (such as three to five years) of the entity's activities. It is usually carried out by senior management and commonly relates to broader issues such as business takeovers, expansion plans, deletion of business segments and radical product/service development. The way in which the strategic planning process is conducted depends upon a range of issues, including the industry and culture of the entity. For example, larger entities will use a rather formal process, while more creative or smaller entities may opt for a less formal process. Nevertheless, the outcomes from the process are the strategic plans of the entity and these will guide shorter term planning such as budgeting. **Budgeting** is a process that focuses on the short term (commonly one year) and results in the production of budgets that set the financial framework for that period. The planning process evaluates whether there will be sufficient resources available to achieve the strategic plan and, most importantly, whether the strategy leads to profits and thereby creates value for the entity. Budgets, therefore, operationalise the strategic plan and allow those in operational areas to understand how their work effort contributes to the entity's strategic objectives. Once the budget has been prepared, it is also used as a control tool to monitor actual results, to investigate differences between actual and budget, and to evaluate and reward performance.

2. Key steps of budgeting process

1. Identify the objectives of the organization.
2. Identify potential strategies.
3. Evaluate alternative strategic options.
4. Select course of action.
5. Implement the long-term plan in the form of the annual budget.
6. Monitor actual results.
7. Respond to divergencies from plan.

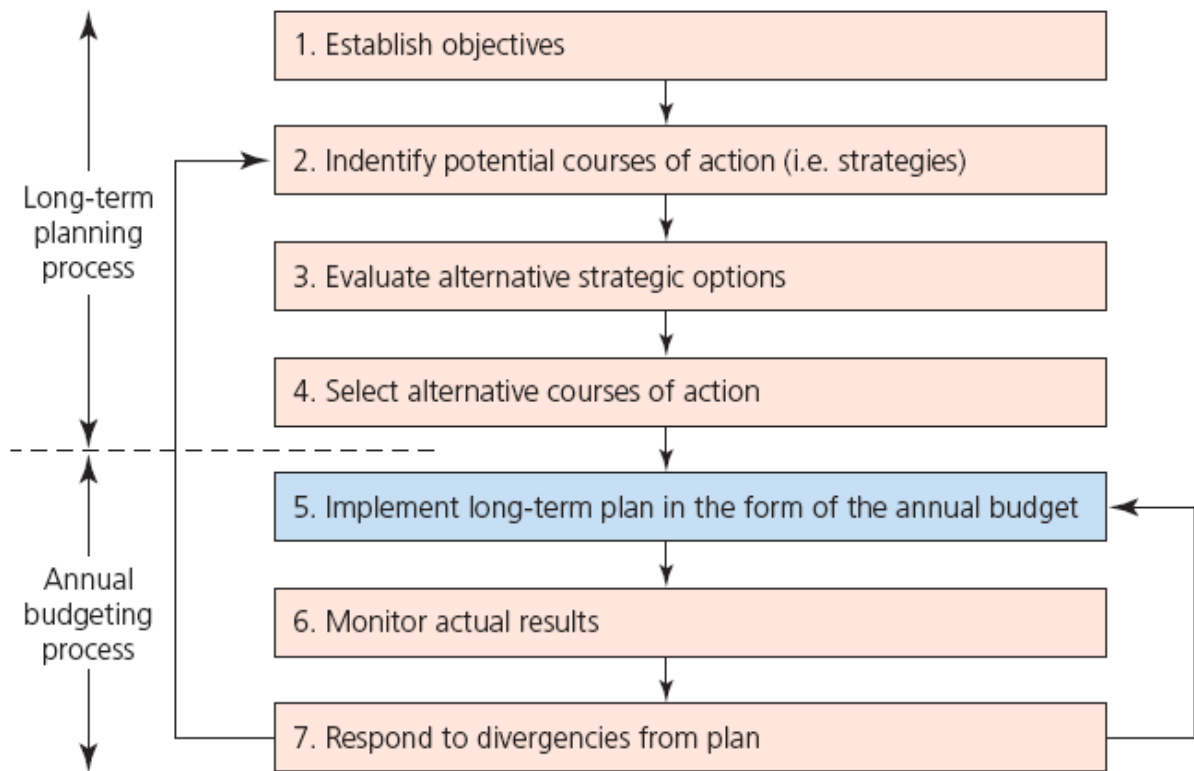


Figure: Overview of budgeting process

3. Why do we produce budgets?

1. To aid the planning of actual operations:

- by forcing managers to consider how conditions might change and what steps should be taken now.
- by encouraging managers to consider problems before they arise.

2. To co-ordinate the activities of the organization:

- by compelling managers to examine relationships between their own operation and those of other departments.

3. To communicate plans to various responsibility centre managers:

- everyone in the organization should have a clear understanding of the part they are expected to play in achieving the annual budget.
- by ensuring appropriate individuals are made accountable for implementing the budget.

4. To motivate managers to strive to achieve the budget goals:

- by focusing on participation
- by providing a challenge/target.

5. To control activities:

- by comparison of actual with budget (attention directing/management by exception).

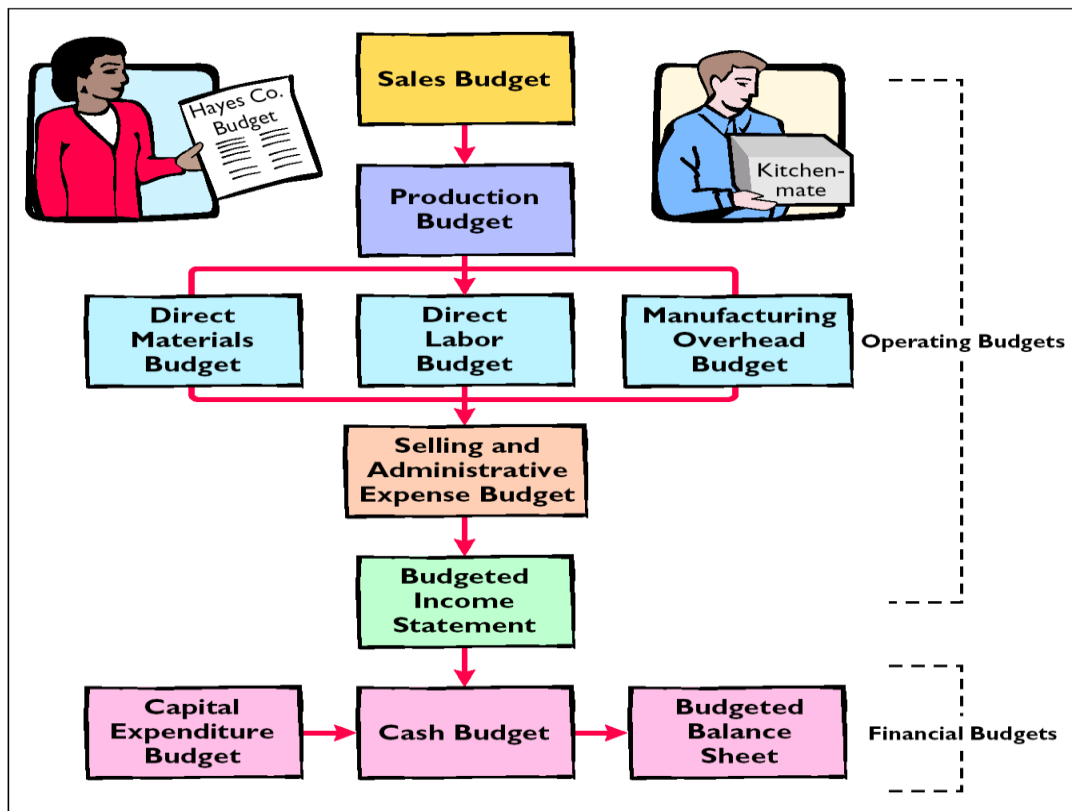
6. To evaluate the performance of managers:

- by providing a means of informing managers of how well they are performing in meeting targets they have previously set.

4. Master Budget

1. Comprehensive planning document for entire organization
2. Consists of all supporting budgets

5. Components of the Master Budget



7. Two Classes of Budgets in the Master Budget

Operating budgets

The individual budgets that result in the preparation of the budgeted income statement
Financial budgets focus on the cash resources needed to fund expected operations and planned capital expenditures

7.1 Preparing the Operating Budgets:

a. Sales Budget

The first budget prepared.

Each of the other budgets depends on the sales budget.

It is derived from the sales forecast. It represents management's best estimate of sales revenue for the budget period.

How to calculate Sales budget: The sales budget is prepared by multiplying the expected unit sales volume for each product by its anticipated unit selling price.

For Hayes Company, sales volume is expected to be 3,000 units in the first quarter with 500-unit increments in each succeeding year. Based on a sales price of \$60 per unit, the sales budget for the year by quarters is shown below:

HAYES COMPANY					
Sales Budget					
For the Year Ending December 31, 20X5					
	Quarter				
	1	2	3	4	Year
Expected unit sales	3,000	3,500	4,000	4,500	15,000
Unit selling price	\$60	\$60	\$60	\$60	\$60
Total sales	\$180,000	\$210,000	\$240,000	\$270,000	\$900,000

b. Production Budget

Hayes believes it can meet future sales requirements by maintaining an ending inventory equal to 20% of the next quarter's budgeted sales volume. The production budget is shown below.

HAYES COMPANY
Production Budget
For the Year Ending December 31, 20X5

	<u>Quarter</u>				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>Year</u>
Expected unit sales	3,000	3,500	4,000	4,500	
Add: Desired ending finished good units	700	800	900	1,000	
Total required units	3,700	4,300	4,900	5,500	
Less: Beginning finished goods units	600	700	800	900	

C. Direct Materials Budget

Shows both the quantity and cost of direct materials to be purchased.

It is derived from the direct materials units required for production (per production budget) plus the desired ending direct materials units less the beginning direct materials units.

Hayes has found that an ending inventory of raw materials equal to 10% of the next quarter's production is sufficient. The manufacture of Kitchen-mate requires 2 pounds of raw materials and the expected cost per pound is \$4. Assume ending direct materials for the 4th quarter are 1,020 pounds. The direct materials budget is shown below:

<i>QUARTER</i>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>Year</u>
Units to be produced	3,100	3,600	4,100	4,600	
Direct materials per unit	X2	X 2	X 2	X 2	
Total pounds needed for production	6,200	7,200	8,200	9,200	
Add: Desired ending direct materials (pounds)	720	820	920	1,020	
Total materials required	6,920	8,020	9,120	10,220	
Less: Beginning direct materials (pounds)	620	720	820	920	
Direct materials purchases	6,300	7,300	8,300	9,300	
Cost per pound	X \$4	X \$4	X \$4	X \$4	

D. Direct Labor Budget

At Hayes Company, two hours of direct labor are required to produce each unit of finished goods, and the anticipated hourly wage rate is \$10. The direct labor budget is shown below.

HAYES COMPANY					
Direct Labor Budget					
For the Year Ending December 31, 20X5					
QUARTER	1	2	3	4	Year
Units to be produced (from Production Budget)	3,100	3,600	4,100	4,600	
Direct Labor time (hours) per unit	2	2	2	2	
Total required direct labor hours	6,200	7,200	8,200	9,200	
Direct labor cost per hour	\$10	\$10	\$10	\$10	

e. Manufacturing Overhead and Selling and Administrative Budget

Manufacturing overhead budget

expected manufacturing overhead costs

Selling and administrative expense budget

projection of anticipated operating expenses

Both distinguish between fixed and variable costs.

Hayes Company expects variable costs to fluctuate with production volume on the basis of the following rates per direct labor hour (as calculated in the Direct Labor Budget).

Indirect materials \$1.00/hr Indirect labor \$1.40/hr Utilities \$.40/hr

Maintenance \$.20/hr

HAYES COMPANY					
Manufacturing Overhead Budget (Variable portion)					
For the Year Ending December 31, 2005					
	Quarter				Year
	1	2	3	4	
Variable costs					
Indirect materials	\$6,200	\$7,200	\$8,200	\$9,200	\$30,800
Indirect labor	8,680	10,080	11,480	12,880	43,120
Utilities	2,480	2,880	3,280	3,680	12,320
Maintenance	1,240	1,440	1,640	1,840	6,160

f. manufacturing Overhead Budget

Fixed costs complete the manufacturing overhead budget and

the totals are used to calculate an overhead rate, which will be applied to production on the basis of direct labor hours.

HAYES COMPANY					
Manufacturing Overhead Budget (Fixed portion and Totals)					
For the Year Ending December 31, 20X5					
	Quarter				
	1	2	3	4	Year
Fixed Costs					
Supervisory salaries	20,000	20,000	20,000	20,000	80,000
Depreciation	3,800	3,800	3,800	3,800	15,200
Property taxes and insurance					
	9,000	9,000	9,000	9,000	36,000
Maintenance	5,700	5,700	5,700	5,700	22,800
Total fixed	38,500	38,500	38,500	38,500	154,000
LESS: DEPRECIATION	3800	3800	3800	3800	
TOTAL FIXED MO	34,700	34,700	34,700	34,700	

7.2. Issues associated with the behavioural aspects of budgeting.

The behavioural aspects of budgeting and planning cover two key areas. The first relates to the style of budgeting process used by an organisation, such as the extent of participation by managers in the annual budget process. The second relates to the impact of the budget targets and plans on the behaviour, motivation and decision making of managers.

7.2.1 Styles of budgeting

Each organisation will have a particular style which reflects how the budgeting process is executed each year. Two common, contrasting styles are the authoritarian and participative styles of budgeting. In an **authoritarian style of budgeting**, senior management simply set the targets and the budget for unit managers. In this case, the unit managers have little say in the targets that are set and may not have any influence over the motivation of the senior management. Alternatively, in a **participative style of budgeting**, the targets and budgets are arrived at by a process of discussion and negotiation between senior management and unit managers. In this case, the unit managers have had a say in the setting of targets and the budget, and consequently are more likely to adopt 'ownership' of the targets and the budget. On the other hand, participation provides the opportunity for line managers to suggest targets and budgets which contain some 'room to move' and may result in the creation of budgetary slack. While **budgetary slack** can be explained in a number of different ways, it essentially results in targets that are a little more easily achievable than might otherwise be the case. If a number of managers engage in this practice, then the ultimate target and budget potentially becomes meaningless. However, it should be noted that managers may not necessarily intend to deceive, and this may be more a function of human behaviour and nature. Of course, one of the reasons for the existence of budget slack is that targets are used to evaluate performance through a control function; that is, when actual performance is compared to the planned performance or target. Where this performance evaluation is then linked to rewards and bonuses, the incentive for trying to influence the target setting in the first place is increased. Finally, an interesting issue arises when we think about the options a senior manager has when the existence of budget slack is discovered. To what lengths is the manager prepared to go to remove it? Organisational practices may help contribute to the existence of budget slack. For example, where budgets are mainly set by simply adjusting last year's figures, the existence of slack might be common and may become embedded within the budget estimates. This could be overcome partly by requiring unit managers to justify their budget from scratch or from what is referred to as a 'zero

base'. While this is more time consuming, it might help overcome budget slack in some circumstances.

7.2.2 Effect of budget targets on behaviour

This aspect of behaviour relates to the role of budget targets in motivating managers. How motivated a manager might be is influenced by a range of factors, including:

- the difficulty of the target — budget targets are best set as challenging but attainable; when a target is too difficult to achieve, the likely effect is that a manager is demotivated
- whether the manager feels 'ownership' of the target — this is influenced by the extent of input by the manager, which, as discussed above, is a function of the style of budgeting used by the organisation.
- whether the manager is able to control the factors influencing the achievement of the budget target
- whether the budget estimates provide too little scope for the manager to properly execute their duties.

7.5 Flexible budget

Flexible budgets - prepared for different levels of volume.

Purposes of flexible budget

- Show revenues and expenses that should have occurred at the actual level of activity.
- May be prepared for any activity level in the relevant range.
- Reveal variances due to good cost control or lack of cost control.
- Improve performance evaluation.

To flex a budget, we need to know

- Total variable costs change in direct proportion to changes in activity.
- Total fixed costs remain unchanged within the relevant range.

7.5.1 Preparing a Flexible Budget

Cheese Corp.

	Cost Formula Per Hour	Total Fixed Cost	Flexible Budgets		
			8,000 Hours	10,000 Hours	12,000 Hours
Machine hours			8,000	10,000	12,000
Variable costs					
Indirect labor	4.00				
Indirect material	3.00				
Power	0.50				
Total variable cost	<u>\$ 7.50</u>				
Fixed costs					
Depreciation		\$12,000			
Insurance		2,000			
Total fixed cost					
Total overhead costs					

Variable costs are expressed as a constant amount per hour.
 $\$40,000 \div 10,000 \text{ hours is } \4.00 per hour.

Fixed costs are expressed as a total amount.

Cheese Corp.

	Cost Formula Per Hour	Total Fixed Cost	Flexible Budgets		
			8,000 Hours	10,000 Hours	12,000 Hours
Machine hours			8,000	10,000	12,000
Variable costs					
Indirect labor	4.00		\$32,000		
Indirect material	3.00		24,000		
Power	0.50		4,000		
Total variable cost	<u>\$ 7.50</u>		<u>\$60,000</u>		
Fixed costs					
Depreciat					
Insurance		2,000			
Total fixed cost					
Total overhead costs					

$\$4.00 \text{ per hour} \times 8,000 \text{ hours} = \$32,000$

Cheese Corp.

	Cost Formula Per Hour	Total Fixed Cost	Flexible Budgets		
			8,000 Hours	10,000 Hours	12,000 Hours
Machine hours			8,000	10,000	12,000
Variable costs					
Indirect labor	4.00	\$ 32,000		\$ 40,000	
Indirect material				30,000	
Power				5,000	
Total variable cost				75,000	
Fixed costs					
Depreciation		\$12,000	\$ 12,000	\$ 12,000	
Insurance		2,000	2,000	2,000	
Total fixed cost			\$ 14,000	\$ 14,000	
Total overhead costs			\$ 74,000	\$ 89,000	

Total fixed costs do not change in the relevant range.

Cheese Corp.

	Cost Formula Per Hour	Total Fixed Cost	Flexible Budgets		
			8,000 Hours	10,000 Hours	12,000 Hours
Machine hours			8,000	10,000	12,000
Variable costs					
Indirect labor	4.00		\$ 32,000	\$ 40,000	\$ 48,000
Indirect material	3.00		24,000	30,000	36,000
Power	0.50		4,000	5,000	6,000
Total variable cost	\$ 7.50		\$ 60,000	\$ 75,000	\$ 90,000
Fixed costs					
Depreciation		\$12,000	\$ 12,000	\$ 12,000	\$ 12,000
Insurance		2,000	2,000	2,000	2,000
Total fixed cost			\$ 14,000	\$ 14,000	\$ 14,000
Total overhead costs			\$ 74,000	\$ 89,000	\$ 104,000

