

Profit Planning

Chapter 8

AC202 Managerial Accounting

ผศ.ดร. นนทวรรณ ยมจินดา

The Basic Framework of Budgeting

A **budget** is a detailed quantitative plan for acquiring and using financial and other resources over a specified forthcoming time period.

1. The act of preparing a budget is called **budgeting**.
2. The use of budgets to control an organization's activities is known as **budgetary control**.



Budgeting for Planning and Control

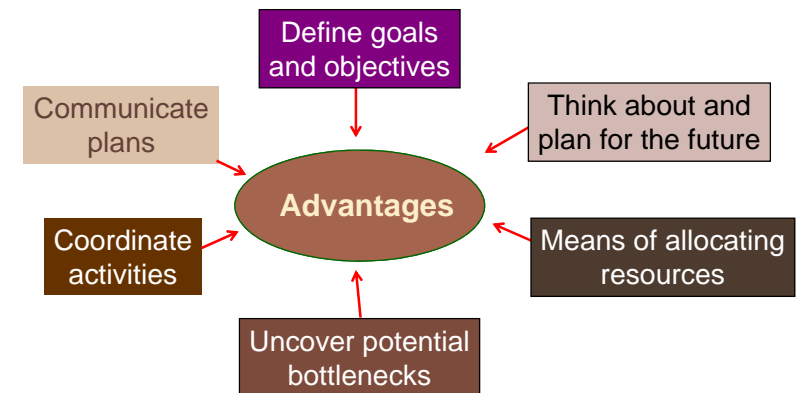
Planning – involves developing objectives and preparing various budgets to achieve those objectives.



Control – involves the steps taken by management to increase the likelihood that the objectives set down while planning are attained and that all parts of the organization are working together toward that goal.



Advantages of Budgeting



Responsibility Accounting

Managers should be held responsible for those items - and **only** those items - that they can actually control to a significant extent.



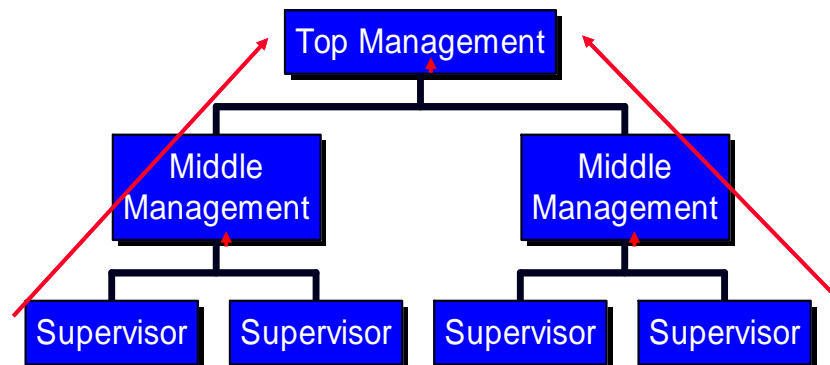
Choosing the Budget Period



Operating budgets ordinarily cover a one-year period corresponding to a company's fiscal year. Many companies divide their annual budget into four quarters.

A continuous budget is a 12-month budget that rolls forward one month (or quarter) as the current month (or quarter) is completed.

Self-Imposed Budget



A self-imposed budget or participative budget is a budget that is prepared with the full cooperation and participation of managers at all levels.

Advantages of Self-Imposed Budgets

1. Individuals at all levels of the organization are viewed as **members of the team** whose judgments are valued by top management.
2. Budget estimates prepared by front-line managers are often **more accurate** than estimates prepared by top managers.
3. **Motivation is generally higher** when individuals participate in setting their own goals than when the goals are imposed from above.
4. A manager who is not able to meet a budget imposed from above can claim that it was **unrealistic**. Self-imposed budgets eliminate this excuse.

Self-Imposed Budgets

Self-imposed budgets should be reviewed by higher levels of management to prevent “budgetary slack.”

Most companies issue broad guidelines in terms of overall profits or sales. Lower level managers are directed to prepare budgets that meet those targets.



The Budget Committee

A standing committee responsible for

- ❖ overall policy matters relating to the budget
- ❖ coordinating the preparation of the budget
- ❖ resolving disputes related to the budget
- ❖ approving the final budget



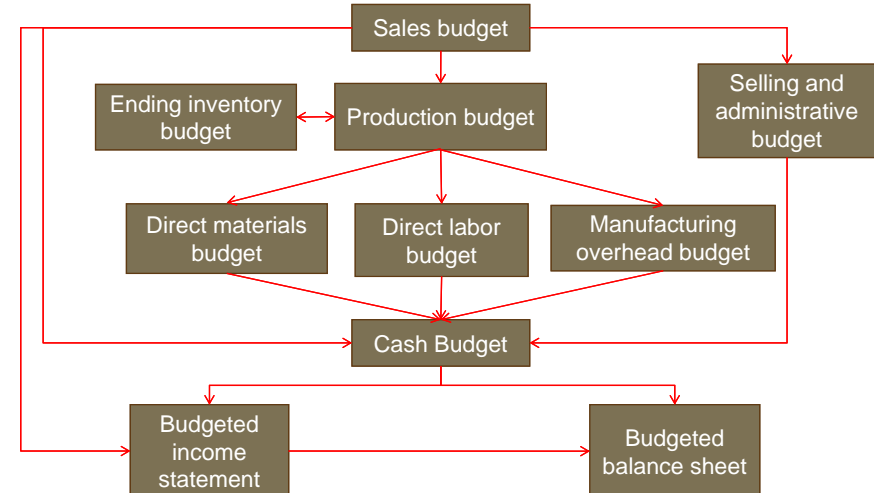
Human Factors in Budgeting

The success of a budget program depends on three important factors:

1. Top management must be enthusiastic and committed to the budget process.
2. Top management must not use the budget to pressure employees or blame them when something goes wrong.
3. Highly achievable budget targets are usually preferred when managers are rewarded based on meeting budget targets.



The Master Budget: An Overview



Budgeting Example

- 1 Royal Company is preparing budgets for the quarter ending June 30th.
- 2 Budgeted sales for the next five months are:

April	20,000 units
May	50,000 units
June	30,000 units
July	25,000 units
August	15,000 units
- 3 The selling price is \$10 per unit.

The Sales Budget

The individual months of April, May, and June are summed to obtain the total budgeted sales in units and dollars for the quarter ended June 30th

	April	May	June	Quarter
Budgeted sales in units	20,000	50,000	30,000	100,000
Selling price per unit	\$ 10	\$ 10	\$ 10	\$ 10
Total budgeted sales	\$ 200,000	\$ 500,000	\$ 300,000	\$ 1,000,000

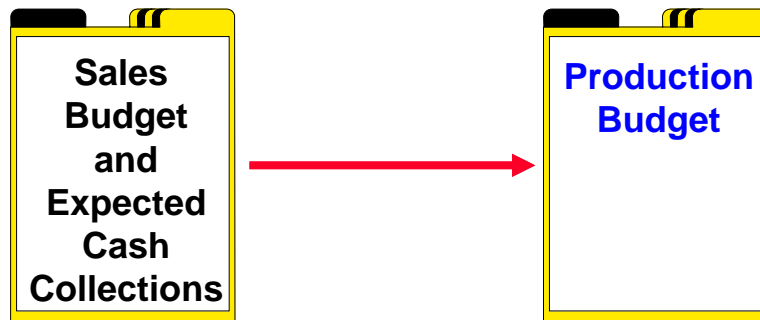
Expected Cash Collections

- All sales are on account.
- Royal's collection pattern is:
 - 70% collected in the month of sale,
 - 25% collected in the month following sale,
 - 5% uncollectible.
- In April, the March 31st accounts receivable balance of \$30,000 will be collected in full.

Expected Cash Collections

	April	May	June	Quarter
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18	Total cash collections			
19				

The Production Budget



The production budget must be adequate to meet budgeted sales and to provide for the desired ending inventory.

The Production Budget

- The management at Royal Company wants ending inventory to be equal to **20%** of the following month's budgeted sales in units.
- On March 31st, 4,000 units were on hand.

Let's prepare the production budget.

The Production Budget

	April	May	June	Quarter
Budgeted Sales	20,000	50,000	30,000	100,000
Add: Desired ending inventory				
Total Needs				
Less: Beginning inventory				
Required production				

The Direct Materials Budget

- At Royal Company, **five pounds** of material are required per unit of product.
- Management wants materials on hand at the end of each month equal to **10%** of the following month's production.
- On March 31, 13,000 pounds of material are on hand. Material cost is **\$0.40** per pound.

Let's prepare the direct materials budget.

The Direct Materials Budget

		April	May	June	Quarter
28					
29	Production	26,000	46,000	29,000	101,000
30	Materials per unit (pounds)	5	5	5	5
31	Production needs	130,000	230,000	145,000	505,000
32	Add: Desired ending inventory				
33	Total needed				
34	Less: Beginning inventory				
35	Materials to be purchased				
36					

Expected Cash Disbursement for Materials

- Royal pays **\$0.40 per pound** for its materials.
- One-half of a month's purchases is paid for in the month of purchase; the other half is paid in the following month.
- The March 31 accounts payable balance is \$12,000.

Let's calculate expected cash disbursements.

Expected Cash Disbursement for Materials

		April	May	June	Quarter
28					
37	Accounts payable 3/31				
38					
39					
40					
41					
42					
43					
44					
45					
46	Total cash disbursements				
47					

The Direct Labor Budget

- At Royal, each unit of product requires *0.05* hours (3 minutes) of direct labor.
- The Company has a "no layoff" policy so all employees will be paid for 40 hours of work each week.
- For purposes of our illustration assume that Royal has a "no layoff" policy, workers are paid at the rate of \$10 per hour regardless of the hours worked.
- For the next three months, the direct labor workforce will be paid for a minimum of 1,500 hours per month.

Let's prepare the direct labor budget.

The Direct Labor Budget

	April	May	June	Quarter
Units of production				
Direct labor per unit				
Labor hours required				
Total direct labor costs				

Manufacturing Overhead Budget

- At Royal, manufacturing overhead is applied to units of product on the basis of direct labor hours.
- The variable manufacturing overhead rate is \$20 per direct labor hour.
- Fixed manufacturing overhead is \$50,000 per month, which includes \$20,000 of noncash costs (primarily depreciation of plant assets).

Let's prepare the manufacturing overhead budget.

Manufacturing Overhead Budget

	April	May	June	Quarter
Budgeted DLH	1,300	2,300	1,450	5,050
Variable mfg. OH rate	\$ 20	\$ 20	\$ 20	\$ 20
Variable mfg. OH costs	\$ 26,000	\$ 46,000	\$ 29,000	\$ 101,000
Fixed mfg. OH costs				
Total mfg. OH costs				
Less: noncash costs				
Cash disbursements				
for manufacturing OH				

Ending Finished Goods Inventory Budget

Production costs per unit	Quantity	Cost	Total
Direct materials	5.00 lbs.	\$ 0.40	\$ 2.00
Direct labor	0.05 hrs.	\$10.00	0.50
Manufacturing overhead	0.05 hrs.	\$49.70	2.49
			<u>\$ 4.99</u>
Budgeted finished goods inventory			
Ending inventory in units		?	
Unit product cost			\$ 4.99
Ending finished goods inventory		?	

$$\frac{\text{Total mfg. OH for quarter } \$251,000}{\text{Total labor hours required } 5,050} = \$49.70 \text{ per hour}$$

Selling and Administrative Expense Budget

- At Royal, the selling and administrative expense budget is divided into variable and fixed components.
- The variable selling and administrative expenses are \$0.50 per unit sold.
- Fixed selling and administrative expenses are \$70,000 per month.
- The fixed selling and administrative expenses include \$10,000 in costs – primarily depreciation – that are not cash outflows of the current month.

Let's prepare the company's selling and administrative expense budget.

Selling and Administrative Expense Budget

	April	May	June	Quarter
Budgeted sales	20,000			
Variable S & A rate	\$ 0.50			
Variable expenses	\$ 10,000			
Fixed S & A expenses	70,000			
Total S & A expenses	80,000			
Less: Noncash expenses	10,000			
Cash S & A expenses	\$ 70,000			?

Calculate the selling and administrative cash expenses for the quarter.

Selling Administrative Expense Budget

	April	May	June	Quarter
Budgeted sales	20,000	50,000	30,000	100,000
Variable S & A rate	\$ 0.50	\$ 0.50	\$ 0.50	\$ 0.50
Variable expenses	\$ 10,000	\$ 25,000	\$ 15,000	\$ 50,000
Fixed S & A expenses	70,000	70,000	70,000	210,000
Total S & A expenses	80,000	95,000	85,000	260,000
Less: Noncash expenses	10,000	10,000	10,000	30,000
Cash S & A expenses	\$ 70,000	\$ 85,000	\$ 75,000	\$ 230,000

Format of the Cash Budget

The cash budget is divided into four sections:

- Cash receipts section lists all cash inflows excluding cash received from financing;
- Cash disbursements section consists of all cash payments excluding repayments of principal and interest;
- Cash excess or deficiency section determines if the company will need to borrow money or if it will be able to repay funds previously borrowed; and
- Financing section details the borrowings and repayments projected to take place during the budget period.

The Cash Budget

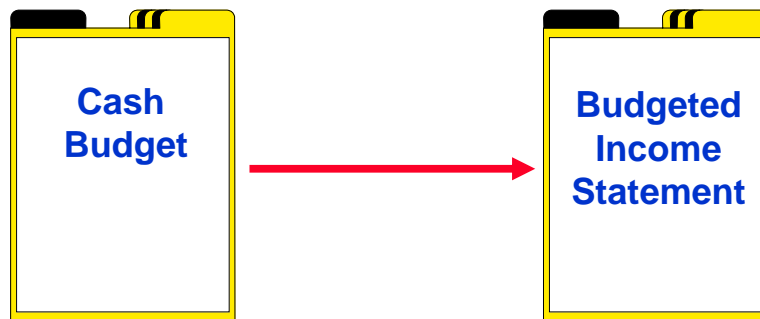
Assume the following information for Royal:

- Maintains a 16% open line of credit for \$75,000
- Maintains a minimum cash balance of \$30,000
- Borrows on the first day of the quarter and repays loans on the last day of the quarter
- Pays a cash dividend of \$49,000 in April
- Purchases \$143,700 of equipment in May and \$48,300 in June (both purchases paid in cash)
- Has an April 1 cash balance of \$40,000

The Cash Budget

	April	May	June	Quarter
Beginning cash balance	\$ 40,000	\$ 30,000	\$ 30,000	\$ 40,000
Add: Cash collections	170,000	400,000	335,000	905,000
Total cash available	210,000	430,000	365,000	945,000
Less: Cash disbursements				
Materials	40,000	72,300	72,700	185,000
Direct labor	15,000	23,000	15,000	53,000
Manufacturing overhead	56,000	76,000	59,000	191,000
Selling and administrative	70,000	85,000	75,000	230,000
Equipment purchase	-	143,700	48,300	192,000
Dividend	49,000	-	-	49,000
Total disbursements	230,000	400,000	270,000	900,000
Excess (deficiency)	(20,000)	30,000	95,000	45,000
Financing:				
Borrowing	50,000	-	-	50,000
Repayments	-	-	(50,000)	(50,000)
Interest	-	-	(2,000)	(2,000)
Total financing	50,000	-	(52,000)	(2,000)
Ending cash balance	\$ 30,000	\$ 30,000	\$ 43,000	\$ 43,000

The Budgeted Income Statement



With interest expense from the cash budget, Royal can prepare the budgeted income statement.

The Budgeted Income Statement

Sales (100,000 units @ \$10)	\$ 1,000,000	
Cost of goods sold (100,000 @ \$4.99)	499,000	Ending Finished Goods Inventory.
Gross margin	501,000	
Selling and administrative expenses	260,000	Selling and Administrative Expense Budget.
Operating income	241,000	
Interest expense	2,000	Cash Budget.
Net income	\$ 239,000	

The Budgeted Balance Sheet

Royal reported the following account balances prior to preparing its budgeted financial statements:

- Land - \$50,000
- Common stock - \$200,000
- Retained earnings - \$146,150 (April 1)
- Equipment - \$175,000

Royal Company Budgeted Balance Sheet June 30		
Assets:		
Cash	\$ 43,000	25% of June sales of \$300,000.
Accounts receivable	75,000	11,500 lbs. at \$0.40/lb.
Raw materials inventory	4,600	5,000 units at \$4.99 each.
Finished goods inventory	24,950	
Land	50,000	
Equipment	367,000	50% of June purchases of \$56,800.
Total assets	564,550	
Liabilities and Stockholders' Equity		
Accounts payable	\$ 28,400	
Common stock	200,000	
Retained earnings	336,150	Beginning balance \$146,150 Add: net income 239,000 Deduct: dividends (49,000) Ending balance \$336,150
Total liabilities and stockholders' equity	\$ 564,550	

End of Chapter 8

