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|  | **Master Budget and**  **Responsibility Accounting** |
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**Transition Notes**

Much of this chapter has been rewritten to reflect the five-step decision model and incorporate activity-based budgeting. The decision model is applied to the process of developing the budget given goals and objectives for the coming year. The illustrative budget preparation problem is updated and includes two cost drivers for the allocation of overhead, taking an ABC approach to budgeting. The assignment of overhead to the cost pools and then to the final cost object is illustrated. The advantages of budgeting are expanded to include *facilitate learning* as an advantage rather than just performance evaluation. This reflects the renewed managerial focus of this edition. There are a number of new or revised problems in the end-of-chapter material.

|  |
| --- |
| **Problem Material**  **Correlation Chart** |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **15th**  **Edition** | **14th**  **Edition** |  | **15th**  **Edition** | **14th**  **Edition** |
|  | 16 | 16 |  | 29 | 29 Revised |
|  | 17 | 17 Revised |  | 30 | 30 Revised |
|  | 18 | 18 |  | 31 | 31 Revised |
|  | 19 | 19 Revised |  | 32 | 32 Revised |
|  | 20 | 20 Revised |  | 33 | 33 Revised |
|  | 21 | ***21*** Revised |  | 34 | 34 Revised |
|  | 22 | 22 Revised |  | 35 | 35 Revised |
|  | 23 | 23 Revised |  | 36 | 36 Revised |
|  | 24 | 24 Revised |  | 37 | 37 Revised |
|  | 25 | 25 Revised |  | 38 | 38 Revised |
|  | 26 | 26 Revised |  | 39 | 39 Revised |
|  | 27 | 27 Revised |  | 40 | 40 Revised |
|  | 28 | 28 Revised |  | 41 | 41 Revised |
|  |  |  |  | 42 New |  |
|  |  |  |  |  |  |

**I. LEARNING OBJECTIVES**

1. Describe the master budget and explain its benefits.
2. Describe the advantages of budgets.
3. Prepare the operating budget and its supporting schedules.
4. Use computer-based financial planning models for sensitivity analysis.
5. Describe responsibility centers and responsibility accounting.
6. Recognize the human aspects of budgeting.
7. Appreciate the special challenges of budgeting in multinational companies.
8. **CHAPTER SYNOPSIS**

This chapter introduces the topic of budgets. Budgets are a primary financial planning tool used by businesses and other organizations. The chapter explains how businesses use and prepare budgets as part of the management process. The concept of responsibility centers and responsibility accounting is also discussed and are related to the concept of controllability. In addition, the human factor in budgeting is covered. The cash budget is presented in the Appendix.

**III. Points of Emphasis**

1. Students need to understand the importance of budgeting, even if the budget targets are not achieved. Emphasize the concept that a budget is the financial expression of the goals for the upcoming period. An effective budget requires a well-thought-out strategy.
2. Observe that budgets are more than just a planning tool, but help achieve coordination and communication, are useful as a framework for evaluating performance, and can be used to motivate employees.
3. Make sure students understand the meaning of such budgetary tools as activity-based budgeting, sensitivity analysis, and kaizen budgeting.
4. In covering responsibility accounting, be aware that students often struggle with the distinction between a profit center and an investment center. Make sure they understand when each is used, and the differences in evaluation for each type. Emphasize the concept of controllability.
5. As time allows cover the cash budget. This is an important budget and it is one the students can relate to in their own lives.

**IV. CHAPTER OUTLINE**

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| --- | --- |
| **LEARNING**  **OBJECTIVE** | 1 |
| Describe the master budget  … the master budget is the initial budget prepared before the start of a period  and explain its benefits  … benefits include planning, coordination, and control | |
|  | |

* 1. A *budget* is (a) the quantitative expression of a management’s proposed plan for a specified period, and (b) an aid to coordinate what needs to be done to implement the plan.

Teaching point. A quantitative expression of management’s plan for the future can best be seen in governmental budgeting. When the governor of a state, for example, presents his budget to the legislature, it includes what that governor wants to emphasize during his term. If he wants to be known as an education governor, there will be a large appropriation for education.

* 1. Effective budgeting integrates the company’s strategy into the budget process. *Strategy* specifies how an organization matches its own capabilities with the opportunities in the marketplace to accomplish its objectives.
  2. The path to effective strategies includes asking questions such as:
* What are our objectives?
* How do we create value for our customers while distinguishing ourselves from our competitors?
* Are the markets for our products local, regional, national, or global? What trends affect our market? How are we affected by the economy, our industry, and our competitors?
* What organizational and financial structures serve us best?
* What are the risks and opportunities of alternative strategies, and what are our contingency plans if our preferred plan fails?
  1. Well-managed companies usually follow an annual budget cycle including the following steps:
* Managers and management accountants plan the performance of the company as a whole and of the subunits accounting for past performance and anticipated changes in the future.
* Senior managers communicate to subordinates a set of expectations against which actual results will be compared.
* Management accountants investigate variations from plans, and corrective action may be taken.
* Managers and management accountants take into account market feedback, changed conditions, and their own experiences as they make plans for the next period.
  1. The **master budget** expresses management’s operating and financial plans for a specified period (usually a fiscal year). The master budget is actually a series of budgets including a set of budgeted financial statements (sometimes called **pro forma** statements).

Teaching point. Emphasize the components of the master budget, including the order that those components are prepared. For example, it would be fruitless to assign someone to prepare a production budget until that person knows the sales plans for the upcoming period.

(Exhibit 6-1 illustrates the link among strategy, planning, and budgets.)

**Refer to Quiz Questions 1 Questions 6-1 and 6-2**

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| **LEARNING**  **OBJECTIVE** | 2 |
| Describe the advantages of budgets  … advantages include coordination, communication, performance evaluation, and managerial motivation | |
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2.1 Budgets are an integral part of management control systems. There are at least three advantages of budgeting.

* Promote coordination and communication.
* Coordination is the meshing and balancing of all aspects of production in a company in the best way for the company to meet its goals.
* Communication is making sure those goals are understood by all employees.
  + Budgets provide a *framework* for judging performance and facilitating learning. Budgeting can overcome two limitations of using past performance as a basis for judging actual results.
* Past results often incorporate past miscues and substandard performance.
* Future conditions can be expected to differ from the past, budgets account for these changed conditions.
  + Budgets can be used to *motivate*managers and other employees. Studies have shown that challenging budgets improve employee performance.

2.2 Despite the fact that budgets are advantageous, there are a number of challenges in properly administering budgets.

* + It is a time-consuming process that involves all levels of management.

Teaching point. Gone are the days (if they ever existed) when the accountant was sequestered in his office slaving over the development of a budget, only to emerge once it was complete. Budgets today involve employees throughout the company. The accountant is a budget coordinator, not a budget preparer—but this image still lives on.

* + Management at all levels should understand and support the budget. If top management support is lacking, the budget effort will be lackluster and halfhearted.
  + Budgets should not be administered rigidly. Changing conditions may call for changes in plans.

Teaching point. The misuse of budgets has given budgeting a bad name. Budgeting is not a “four letter word,” nor is it a hammer to hold over the employee’s head as an excuse to deny funding requests. At one company the primary qualification the VP for finance seemed to have was his ability to say “No.” One manager of a department was often told to cut her budget, but she never saw her budget or knew what or how much she was budgeted.

2.3 Budgets typically cover a set time period including a full business cycle. Normally an annual budget would be prepared, but broken down into subperiods such as a month or quarter.

2.4 Some companies utilize **rolling budgets** or **continuous budgeting.** This type of budget is created by continually adding a month or quarter to the existing budget, so that the company always has a 12-month budget in place.

**Refer to Quiz Question 3**

|  |  |
| --- | --- |
| **LEARNING**  **OBJECTIVE** | 3 |
| Prepare the operating budget  … the budgeted income statement  and its supporting schedules  … such as cost of goods sold and nonmanufacturing costs | |
|  | |

Teaching point. As each budget is covered, it is useful to demonstrate the preparation of each budget. Problem 6-37 is a useful problem for this purpose.

(Exhibit 6-2 provides an overview of the budgeting process.)

* 1. The process of preparing the budget incorporates the five-step decision process that was introduced in Chapter 1. (If necessary, review these steps with the students.) The budgeting process includes both **operating budgets** and **financial budgets.**
  2. **Operating budgets** include budgets reflecting the planned operational aspects of the business, including revenues, production, manufacturing costs, and other expenses for the period. It culminates in a budgeted income statement.
  3. **Financial budgets** consist of a capital expenditures budget, a cash budget, a budgeted balance sheet, and a budgeted statement of cash flows.

3.4 Although details differ among companies, the following basic steps are common for developing the operating budget for a manufacturing company.

**Step 1:** The first step budget to be prepared is the **revenues budget.** Although this budget looks simple, the company should put a great amount of time into consideration of the projected sales numbers, as the remainder of the budget process relies on these projections.

Teaching point. Cover the various approaches that can be utilized in arriving at the numbers for the revenues budget. Emphasize the economy, competitors, company plans for new or discontinuing products as relevant factors.

**Step 2:** Based on the numbers included in the revenues budget, the company can then prepare the **production budget.** Included in this budget are projections about inventory levels. This budget is expressed only in units, not dollars.

**Step 3:** From the production budget, the company can then move to the **direct materials usage and direct materials purchases budgets.** These are often prepared as one document. In addition to including projections about inventory levels for direct materials, management must also make predictions about direct material prices.

**Step 4:** The **direct manufacturing labor cost budget** is prepared next. Labor standards—the time allowed per unit of output—are used to calculate direct labor costs. Because labor is not inventoried, the process for this budget is somewhat simpler than prior budgets.

**Step 5:** The **manufacturing overhead cost budget** comes next. It includes a budget for each item of manufacturing overhead. Even though the budget looks simple, keep in mind that each line item in this budget is also its own budget. From this budget, managers can determine a predetermined overhead application rate.

* + The used of activity-based cost drivers in preparing the manufacturing overhead cost budget gives rise to **activity-based budgeting,** or a focus on the activities necessary to produce and sell products and services.

**Step 6:** The next budget to be prepared is the **ending inventories budget.** This is simply a listing of the budgeted ending inventories in materials and finished goods. Units and dollar amounts are included. Work-in-process inventory is not budgeted.

**Step 7:** The **cost of goods sold budget** is then prepared. Most of the information for this budget has already been generated. It is simply a matter of compiling the numbers already available into a cost of goods sold format for this budget.

**Step 8:** The **nonmanufacturing cost budget** closely resembles the manufacturing overhead cost budget in form. It includes the budgeted amount for all nonmanufacturing costs the company expects to incur for the period (selling, general, and administrative). As with the overhead budget, each line item represents its own budget and follows a fixed/variable separation.

**Step 9:** The **budgeted, or** **pro forma,** **income statement** follows the format of an income statement. As with the cost of goods sold budget, many of the items for this budget have already been generated during the budget process.

**Refer to Quiz Questions 4 and 5 Exercises 6-16 through 6-19, Problem 6-30**

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| **LEARNING**  **OBJECTIVE** | 4 |
| Use computer-based financial planning models in sensitivity analysis  … for example, understand the effects of changes in selling prices and direct material prices on budgeted income | |
|  | |

4.1 **Financial planning models** are mathematical representations of the relationships among operating activities, financing activities, and other factors that affect the master budget.

4.2 Companies can use computer-based systems, such as Enterprise Resource Planning (ERP) to perform calculations for these planning models.

4.3 *Sensitivity analysis* is a “what if” technique that examines how a result will change if the original predicted results are not achieved or if an underlying assumption changes.

Teaching point. To bring financial planning models down to a level that can be grasped more readily by the students point out that an Excel spreadsheet that includes formulas can be a type of financial planning model. It is useful to demonstrate here how Excel can be used in sensitivity analysis in a simple spreadsheet.

(Exhibits 6-4 and 6-9 display sensitivity analysis results.)

**Refer to Quiz Question 6**

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| **LEARNING**  **OBJECTIVE** | 5 |
| Describe responsibility centers  … a part of an organization that a manager is accountable for  and responsibility accounting  … measurement of plans and actual results that a manager is accountable for | |
|  | |

5.1 **Organization structure** is the arrangement of lines of responsibility within the organization. Organizations can be structured by business function or product line, or geographically.

5.2 A **responsibility center** is a part, segment, or subunit of an organization whose manager is accountable for a specified set of activities.

5.3 **Responsibility accounting** measures the plans, budgets, actions, and actual results of each responsibility center. Four types of responsibility centers are:

* + **Cost center,** in which the manager is responsible only for costs. The accounting department would be accounted for as a cost center.
  + **Revenue center,** in which the manager is accountable only for revenues.
  + **Profit center,** in which the manager is accountable for revenues and costs. For example, the shoe department in a department store may be accounted for as a profit center.
  + **Investment center,** in which the manager is accountable for revenues and costs, but also the investment (or assets) under his control. A single store or a division within the company may be accounted for as an investment center.

Teaching point. Emphasize that a key to successful responsibility accounting is to properly identify the costs a manager is responsible for. Any costs over which the manager lacks control should not be a part of his evaluation.

5.4 Budgets and responsibility accounting may be combined to provide feedback about performance relative to the budget of different responsibility centers.

5.5 These differences between budgeted and actual results are useful in at least three ways:

* **Early warning.** These variances may alert managers to events not immediately evident, thus allowing them to take early corrective action or exploit the available opportunities.
* **Performance evaluation.** The variances allow managers to assess how well the company has performed in implementing its strategies.
* **Evaluating strategy.** Variance may signal that the strategies being pursued by management are ineffective and need changing.

5.6 **Controllability** is the degree of influence that a specific manager has over costs, revenues, or related items for which he or she is responsible.

5.7 A **controllable cost** is any cost that is primarily subject to the influence of a given responsibility center manager for a given period.

5.8 This controllability can be difficult to pinpoint for two reasons:

* Few costs are clearly under the sole influence of one manager.
* With a long enough time span, all costs will come under someone’s control. Most performance reports cover a period of one year or less, so this does not normally present a problem.

**Refer to Quiz Question 8 Exercise 6-25**

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| **LEARNING**  **OBJECTIVE** | 6 |
| Recognize the human aspects of budgeting  … to engage subordinate managers in the budgeting process | |
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6.1 A budget is more effective when the lower-level managers actively engage in the budget process. This participation adds credibility to the budgeting process and creates greater commitment and accountability toward the budget.

6.2 Managers frequently play games with budgets and build in **budgetary slack.** This is the practice of underestimating revenues, overestimating costs, or overestimating time in order to make the budget targets more easily achievable.

Teaching point. Ask the students “If I gave you an assignment to report to the class on responsibility accounting, how soon could you have it ready for me?” Then probe their responses to bring out the fact that they have overestimated the time they really think they need to complete the task. This is an example of budgetary slack. Explore the reasons they built slack into their estimates.

6.3 **Kaizen budgeting** is a budgetary process that explicitly incorporates continuous improvement during the budget period.

Teaching point. Students will often question limits of improvements and cost reductions. Point out that Kaizen is about working smarter, not working harder. The idea is to find better ways, not just faster ways to produce the product or service.

6.4 A significant aspect of kaizen budgeting is employee input. Companies that implement kaizen budgeting believe that employees involved in the manufacturing, sales, or distribution process have the best information and knowledge on how the job can be done better.

**Refer to Quiz Questions 9 and 10 Exercise 6-26**

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| **LEARNING**  **OBJECTIVE** | 7 |
| Appreciate the special challenges of budgeting in multinational companies  … exposure to currency fluctuations and to different legal, political, and economic environments | |
|  | | |

7.1 In budgeting in multinational companies three adjustments must be made:

* Operating results must be translated into a common currency for external financial reporting. Managers should anticipate fluctuations in exchange rates. Many managers use forward, futures, and options contracts to minimize the exposure to foreign currency fluctuations.
* A currency gain or loss must be budgeted and recognized when currencies are translated.
* The political, legal, and economic environments must be understood.

**APPENDIX: THE CASH BUDGET**

A.1 The **cash budget** is an important component of the budgeting process. This chapter illustrates the operating budget, which is one part of the master budget.

A.2 The financial budget is the other part of the master budget, and includes the capital expenditures budget, the cash budget, the budgeted balance sheet, and the budgeted statement of cash flows.

A.3 The appendix focuses on the cash budget. It is best illustrated through example. Work through Problem 6-29 to illustrate this concept. If time is limited, use the chapter quiz, questions 11 and 12.

**Refer to Quiz Questions 11 and 12 Exercise 6-29**

**V. OTHER RESOURCES**

To download these and other resources, visit the Instructor’s Resource Center [*www.pearsonhighered.com*](http://www.pearsonhighered.com/).

The following exhibits were mentioned in this chapter of the Instructor’s Manual, and have been included in the **PowerPoint Lecture presentation** created specifically for this chapter. You may use the PowerPoint Lecture presentations “as is”, or modify them to suit your individual needs.

Exhibit 6-1 illustrates the link among strategy, planning, and budgets.

Exhibit 6-2 provides an overview of the budgeting process.

Exhibits 6-4 and 6-9 display sensitivity analysis results.

Download pdf images of textbook illustrations and exhibits from the **Image Library**

**CHAPTER 6 QUIZ**

1. Budgeting is the common accounting tool companies use for planning and controlling. Budgets
2. provide a measure of planned financial results.
3. are prepared independent of the company’s long-term strategies.
4. do not usually reflect actual results, so they are a useless exercise.
5. serve as the financial expression of management’s plans for the upcoming period.
6. [AICPA Adapted] Dewitt Co. budgeted its activity for October 2004 from the following information:

* Sales are budgeted at $750,000. All sales are credit sales and a provision for doubtful accounts is made monthly at the rate of 2 percent of sales.
* Merchandise inventory was $120,000 at September 30, 2004, and an increase of $10,000 is planned for the month.
* All merchandise is marked up to sell at invoice cost plus 50 percent.
* Estimated cash disbursements for selling and administrative expenses for the month are $105,000.
* Depreciation for the month is projected at $25,000.

Dewitt is projecting operating income for October 2004 in the amount of

a. $105,000.

b. $119,000.

c. $129,000.

d. $230,000.

1. Which of the following is *not* a major benefit of budgets?
2. Compels planning
3. Eliminates innovation
4. Provides performance criteria
5. Promotes coordination and communication

**The following data apply to questions 4 and 5.**

Hester Company budgets on an annual basis for its fiscal year. The following beginning and ending inventory levels (in units) are planned for the fiscal year of July 1, 2004 through June 30, 2005.

July 1, 2004 June 30, 2005

Raw material1 40,000 10,000

Work-in-process 8,000 8,000

Finished goods 30,000 5,000

1 Three (3) units of raw material are needed to produce each unit of finished product.

4. [CMA Adapted] If Hester Company plans to sell 500,000 units during the 2004–2005 fiscal year, the number of units it would have to manufacture during the year would be

a. 505,000 units.

b. 500,000 units.

c. 480,000 units.

d. 475,000 units.

5. [CMA Adapted] If 450,000 finished units were to be manufactured during the 2004–2005 fiscal year by Hester Company, the units of raw material needed to be purchased would be

a. 1,350,000 units.

b. 1,360,000 units.

c. 1,320,000 units.

d. 1,330,000 units.

6. Which of the following does *not* pertain to financial planning models in software form?

1. Reduces computational burden and time required to prepare budgets
2. Eliminates need to update budgets as uncertainty resolved
3. Assists managers with sensitivity analysis
4. Performs calculations that are mathematical representations of relationships in master budget
5. The major cost management concept used in kaizen budgeting is that of
6. eliminating inventories of every type but materials.
7. refinements in the indirect-cost categories for costing systems.
8. continuous improvement.
9. sensitivity analysis using computer-based financial planning models.
10. Which of the following statements does *not* describe responsibility accounting?
11. It measures the plans and actions of each responsibility center.
12. It budgets to emphasize that for which each responsibility center is accountable.
13. It calculates variances between budgeted and actual accountability for each responsibility center.
14. It identifies managers at fault for operating problems by reports for each responsibility center.
15. Controllability
16. is always clear cut as to who has responsibility for a cost.
17. is another term for responsibility.
18. is the responsibility of the corporate controller.
19. is the degree of influence a specific manager has over costs, revenues, and other items.
20. Budgetary slack
21. is going to be included in budget estimates, so it should just be ignored.
22. provides managers with a hedge against unexpected circumstances.
23. should be totally eliminated from the budget.
24. is not found in governmental budgets.

**The following data apply to questions 11 and 12 [Appendix].**

Information pertaining to Brenton Corporation’s sales revenue is presented in the following table.

February March April

Cash sales $160,000 $150,000 $120,000

Credit sales 300,000 400,000 280,000

Total sales $460,000 $550,000 $400,000

Management estimates that 5 percent of credit sales are not collectible. Of the credit sales that are collectible, 60 percent are collected in the month of sale and the remainder in the month following the sale. Cost of purchases of inventory each month is 70 percent of the next month’s projected total sales. All purchases of inventory are on account; 25 percent are paid in the month of purchase, and the remainder is paid in the month following the purchase.

11. [CMA Adapted] Brenton’s budgeted total cash receipts in April are

a. $448,000.

b. $437,000.

c. $431,600.

d. $328,000.

12. [CMA Adapted] Brenton’s budgeted total cash payments in March for inventory purchases are

a. $385,000.

b. $358,750.

c. $306,250.

d. $280,000.

**CHAPTER 6 QUIZ SOLUTIONS**

# 1. d

# 2. a

# 3. b

# 4. d

# 5. c

# 6. b

# 7. c

# 8. d

# 9. d

# 10. b

# 11. c

# 12. b

**Quiz Question Calculations**

2. Sales $750.000

Cost of goods sold (500,000) (750,000/Cost + 0.5 Cost)

Bad debts expense (15,000)

S & A expense (105,000)

Depreciation expense (25,000)

Operating income 105,000

1. Sales 500,000

+ Ending inventory 5,000

– Beginning inventory (30,000)

Production 475,000

1. Required for production 3 × 450,000 = 1,350,000

+ Ending inventory 10,000

– Beginning inventory (40,000)

Purchases 1,320,000

1. Cash receipts

From April cash sales $120,000

From April credit sales 0.60(280,000 × 0.95) 159,600

From March credit sales 0.40(400,000 × 0.95) 152,000

Total collections $431,600

1. February purchases 550,000 × 0.7 = 385,000 75% paid in March = $288,750

March purchases 400,000 × 0.7 = 280,000 25% paid in March = 70,000

Total cash payments in March $358,750