

Highlights to Remember

- 1 **Describe the relationship of management control systems to organizational goals.** The starting point for designing and evaluating a management control system is the identification of organizational goals as specified by top management.
- 2 **Use responsibility accounting to define an organizational subunit as a cost center, a profit center, or an investment center.** Responsibility accounting assigns revenue and cost objectives to the management of the subunit that has the greatest influence over them. Cost centers focus on costs only, profit centers on both revenues and costs, and investment centers on profits relative to the amount invested.
- 3 **Develop performance measures and use them to monitor the achievements of an organization.** A well-designed management control system measures both financial and nonfinancial performance. Superior nonfinancial performance usually leads to superior financial performance in time. The performance measures should tell managers how well they are meeting the organization's goals.
- 4 **Explain the importance of evaluating performance and describe how it impacts motivation, goal congruence, and employee effort.** The way an organization measures and evaluates performance affects individuals' behavior. The more that it ties rewards to performance measures, the more incentive there is to improve the measures. Poorly designed measures may actually work against the organization's goals.
- 5 **Prepare segment income statements for evaluating profit and investment centers using the contribution margin and controllable-cost concepts.** The contribution approach to measuring a segment's income aids performance evaluation by separating a segment's costs into those controllable by the segment management and those beyond management's control. It allows separate evaluation of a segment as an economic investment and the performance of the segment's manager.
- 6 **Use a balanced scorecard to recognize both financial and nonfinancial measures of performance.** The balanced scorecard helps managers monitor actions that are designed to meet the various goals of the organization. It contains key performance indicators that measure how well the organization is meeting its goals.
- 7 **Measure performance against quality, cycle time, and productivity objectives.** Measuring performance in areas such as quality, cycle time, and productivity causes employees to direct attention to those areas. Achieving goals in these nonfinancial measures can help meet long-run financial objectives.
- 8 **Describe the difficulties of management control in service and nonprofit organizations.** Management control in service and nonprofit organizations is difficult because of a number of factors, chief of which is a relative lack of clearly observable outcomes.

Accounting Vocabulary

balanced scorecard (BSC), p. 401	key success factor, p. 388	responsibility center, p. 389
controllable cost, p. 395	management control system, p. 386	segments, p. 397
cost center, p. 389	managerial effort, p. 393	throughput time, p. 405
cost of quality report, p. 403	motivation, p. 394	total quality management (TQM), p. 405
cycle time, p. 405	productivity, p. 406	uncontrollable cost, p. 395
goal congruence, p. 393	profit center, p. 389	
investment center, p. 389	quality control, p. 403	
key performance indicators, p. 401	quality-control chart, p. 405	
	responsibility accounting, p. 389	

Fundamental Assignment Material

9-A1 Responsibility of Purchasing Agent

Excel Electronics Company, a privately held enterprise, has a subcontract from a large aerospace company in Chicago. Although Excel was a low bidder, the aerospace company was reluctant to award the business to the company because it was a newcomer to this kind of activity. Consequently, Excel assured the aerospace company of its financial strength by submitting its audited financial statements. Moreover, Excel agreed to pay a penalty of \$5,000 per day for each day of late delivery for whatever cause.

Jean Schlinger, the Excel purchasing agent, is responsible for acquiring materials and parts in time to meet production schedules. She placed an order with an Excel supplier for a critical manufactured component. The supplier, who had a reliable record for meeting schedules, gave Schlinger an acceptable

delivery date. Schlinger checked up several times and was assured that the component would arrive at Excel on schedule.

On the date specified by the supplier for shipment to Excel, Schlinger was informed that the component had been damaged during final inspection. It was delivered ten days late. Schlinger had allowed four extra days for possible delays, but Excel was six days late in delivering to the aerospace company and so had to pay a penalty of \$30,000.

What department should bear the penalty? Why?

9-A2 Contribution Approach to Responsibility Accounting

Michael Forsythe owns and operates a small chain of convenience stores in Denver and Colorado Springs. The company has five stores including a downtown store and a Littleton Store in the Denver Division and a downtown store, a Plaza store, and an airport store in the Colorado Springs Division. There is also a separate administrative staff that provides market research, personnel, and accounting and finance services.

The company had the following financial results for 20X1 (in thousands):

Sales revenue	\$8,000
Cost of merchandise sold	<u>5,000</u>
Gross margin	3,000
Operating expenses	<u>2,200</u>
Income before income taxes	<u>\$ 800</u>

The following data about 20X1 operations were also available:

- All five stores used the same pricing formula; therefore, all had the same gross margin percentage.
- Sales were largest in the two Downtown stores, with 30% of the total sales volume in each. The Plaza and Airport stores each provided 15% of total sales volume, and the Littleton store provided 10%.
- Variable operating costs at the stores were 10% of revenue for the Downtown stores. The other stores had lower variable and higher fixed costs. Their variable operating costs were only 5% of sales revenue.
- The fixed costs over which the store managers had control were \$125,000 in each of the Downtown stores, \$160,000 at Plaza and Airport, and \$80,000 at Littleton.
- The remaining \$910,000 of operating costs consisted of
 - \$210,000 controllable by the Colorado Springs division manager but not by individual stores
 - \$100,000 controllable by the Denver division manager but not by individual stores
 - \$600,000 controllable by the administrative staff
- Of the \$600,000 spent by the administrative staff, \$350,000 directly supported the Colorado Springs division, with 20% for the Downtown store, 30% for each of the Plaza and Airport stores, and 20% for Colorado Springs operations in general. Another \$140,000 supported the Denver division, 50% for the Downtown store, 25% for the Littleton store, and 25% supporting Denver operations in general. The other \$110,000 was for general corporate expenses.

Prepare an income statement by segments using the contribution approach to responsibility accounting. Use the format of Exhibit 9-4, page 396. Column headings should be

Company as a whole	Breakdown into Two Divisions		Breakdown of Denver Division			Breakdown of Colorado Springs Division			
	Denver	Colorado Springs	Not allocated	Downtown	Littleton	Not allocated	Downtown	Plaza	Airport

9-A3 Comparison of Productivity

Lewellyn and Bohn are manufacturing companies. Comparative data for 2001 and 2007 are

		Lewellyn	Bohn
Sales revenue	2001	\$5,831,000,000	\$7,658,000,000
	2007	\$6,274,000,000	\$9,667,000,000
Number of employees	2001	56,600	75,900
	2007	54,800	76,200

Assume that inflation has totaled 15% during these six years so that each 2001 dollar is equivalent to 1.15 2007 dollars, due to inflation.

- Compute 2001 and 2007 productivity measures in terms of revenue per employee for Lewellyn and Bohn.
- Compare the change in productivity between 2001 and 2007 for Lewellyn with that for Bohn.

9-B1

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	Company Breakdown into Two Divisions		Breakdown of West Division Only				Breakdown of West Division, Meats Only			
	Company as a Whole	East Division	West Division	Not Allocated†	Groceries	Produce	Meats	Not Allocated†	Store 1	Store 2
Net sales	\$4,000	\$1,500	\$2,500	—	\$1,300	\$300	\$900	—	\$600	\$300
Variable costs										
Cost of merchandise sold	\$3,000	\$1,100	\$1,900	—	\$1,000	\$230	\$670	—	\$450	\$220
Variable operating costs‡	260	100	160	—	100	10	50	—	35	15
Total variable costs	\$3,260	\$1,200	\$2,060	—	\$1,100	\$240	\$720	—	\$485	\$235
(a) Contribution margin	\$740	\$300	\$440	—	\$200	\$60	\$180	—	\$115	\$65
Less: fixed costs controllable by segment managers\$	260	100	160	\$20	40	10	90	\$30	35	25
(b) Contribution controllable by segment managers	\$480	\$200	\$280	—	\$160	\$50	\$90	—	\$80	\$40
Less: fixed costs controllable by others¶	200	90	110	20	40	10	40	10	22	8
(c) Contribution by segments	\$280	\$110	\$170	—	\$120	\$40	\$50	—	\$58	\$32
Less: unallocated costs	100	—	—	—	—	—	—	—	—	—
(d) Income before income taxes	\$180	—	—	—	—	—	—	—	—	—

Exhibit 9.4
Retail Grocery Store

Contribution Approach: Model Income Statement by Segments* (thousands of dollars)

USE FOR PROBLEM 9-A2

* Three different types of segments are illustrated here: divisions, product lines, and stores. As you read across, note that the focus becomes narrower, from East and West divisions to West Division only, to meats in West Division only.
 † Only those costs clearly identifiable to a product line or store should be allocated.
 ‡ Principally wages and payroll-related costs.
 § Examples are certain advertising, sales promotions, salespersons' salaries, management consulting, training and supervision costs.
 ¶ Examples are depreciation, property taxes, insurance, and perhaps the segment manager's salary.
 || These costs are not clearly or practically allocable to any segment except by some highly questionable allocation base.

Segment of revenues a management and r Line (a) i expenses. Th changes in in income of sh margin ratio. .20. Thus, a \$ increase in in operating exp Contribution Lines (b) and from the professional terms distinguishing an aging population in a ski circumstances. The mana not other adv the meat man

Accounting Vocabulary

agency theory, p. 432	economic value added (EVA), p. 435	residual income, p. 435
capital charge, p. 435	gross book value, p. 440	return on investment (ROI), p. 434
capital turnover, p. 434	incentives, p. 431	return on sales, p. 434
centralization, p. 428	management by objectives (MBO), p. 452	segment autonomy, p. 429
cost of capital, p. 435	net book value, p. 440	transfer price, p. 442
decentralization, p. 428	performance metric, p. 431	
dysfunctional decisions, p. 446		
economic profit, p. 435		

Fundamental Assignment Material

10-A1 ROI and Economic Profit Calculations

Consider the following data (in thousands):

	Division		
	Alpha	Beta	Gamma
Average invested capital	\$1,000	\$ 600	\$1,800
Revenue	3,600	1,800	9,000
Income	180	126	180

- For each division, compute the return on sales, the capital turnover, and the return on investment (ROI).
- Which division is the best performer? Explain.
- Suppose each division is assessed a cost of capital of 10% on invested capital. Compute the economic profit for each division. Which division is the best performer based on economic profit? Explain.

10-A2 Transfer-Pricing Dispute

Gilbert Équipement, SA, a French transportation equipment manufacturer, is heavily decentralized. Each division head has full authority on all decisions regarding sales to internal or external customers. The Provence Division has always acquired a certain equipment component from the Normandy Division. However, when informed that the Normandy Division was increasing its unit price to €325, the Provence Division's management decided to purchase the component from outside suppliers at a price of €300.

The Normandy Division had recently acquired some specialized equipment that was used primarily to make this component. The manager cited the resulting high depreciation charges as the justification for the price boost. He asked the president of the company to instruct the Provence Division to buy from Normandy at the €325 price. He supplied the following data to back his request:

Provence's annual purchases of component	2,000 units
Normandy's variable costs per unit	€ 280
Normandy's fixed costs per unit	€ 30

- Suppose there are no alternative uses of the Normandy facilities. Will the company as a whole benefit if the Provence Division buys from the outside suppliers for €300 per unit? Show computations to support your answer.
- Suppose internal facilities of Normandy would not otherwise be idle. The equipment and other facilities would be assigned to other production operations that would otherwise require an additional annual outlay of €45,500. Should the Provence Division purchase from outsiders at €300 per unit?
- Suppose that there are no alternative uses for Normandy's internal facilities and that the outsiders' selling price drops by €30. Should the Provence Division purchase from outsiders?
- As the president, how would you respond to the Normandy Division manager's request? Would your response differ depending on the specific situations described in numbers 1 through 3 above? Why?