



Problems: Set C


P23-1C Haslett Inc. manufactures basketballs for the National Basketball Association (NBA). For the first 6 months of 2010, the company reported the following operating results while operating at 90% of plant capacity.

	<u>Amount</u>	<u>Per Unit</u>
Sales	\$4,500,000	\$50.00
Cost of goods sold	3,150,000	35.00
Selling and administrative expenses	360,000	4.00
Net income	<u>\$ 990,000</u>	<u>\$11.00</u>

Fixed costs for the period were: Cost of goods sold \$900,000, and selling and administrative expenses \$135,000.

In July, normally a slack manufacturing month, Haslett receives a special order for 9,000 basketballs at \$32 each from the European Basketball Association (EBA). Acceptance of the order would increase variable selling and administrative expenses \$0.50 per unit because of shipping costs but would not increase fixed costs and expenses.

Instructions

- Prepare an incremental analysis for the special order.
- Should Haslett Inc. accept the special order?
- What is the minimum selling price on the special order to produce net income of \$5.00 per ball?
-  What nonfinancial factors should management consider in making its decision?

P23-2C The management of Finnigan Manufacturing Company is trying to decide whether to continue manufacturing a part or to buy it from an outside supplier. The part, called BIZBE, is a component of the company's finished product.

The following information was collected from the accounting records and production data for the year ending December 31, 2010.


- 6,000 units of BIZBE were produced in the Machining Department.
- Variable manufacturing costs applicable to the production of each BIZBE unit were: direct materials \$4.75, direct labor \$4.60, indirect labor \$0.45, utilities \$0.35.
- Fixed manufacturing costs applicable to the production of BIZBE were:

<u>Cost Item</u>	<u>Direct</u>	<u>Allocated</u>
Depreciation	\$1,100	\$ 900
Property taxes	500	200
Insurance	900	600
	<u>\$2,500</u>	<u>\$1,700</u>

All variable manufacturing and direct fixed costs will be eliminated if BIZBE is purchased. Allocated costs will have to be absorbed by other production departments.

- The lowest quotation for 6,000 BIZBE units from a supplier is \$66,000.
- If BIZBE units are purchased, freight and inspection costs would be \$0.30 per unit, and receiving costs totaling \$750 per year would be incurred by the Machining Department.

Instructions

- Prepare an incremental analysis for BIZBE. Your analysis should have columns for (1) Make BIZBE, (2) Buy BIZBE, and (3) Net Income Increase/Decrease.
- Based on your analysis, what decision should management make?
- Would the decision be different if Finnegan Company has the opportunity to produce \$6,000 of net income with the facilities currently being used to manufacture BIZBE? Show computations.
-  What nonfinancial factors should management consider in making its decision?

P23-3C Tryon Manufacturing Company has four operating divisions. During the first quarter of 2010, the company reported aggregate income from operations of \$135,000 and the divisional results shown on the next page.

Make incremental analysis for special order, and identify nonfinancial factors in decision.

(S0 3)

Make incremental analysis related to make or buy; consider opportunity cost, and identify nonfinancial factors.

(S0 4)

Compute contribution margin, and prepare incremental analysis concerning elimination of divisions.

(S0 7)

	Division			
	I	II	III	IV
Sales	\$510,000	\$390,000	\$310,000	\$170,000
Cost of goods sold	300,000	250,000	270,000	150,000
Selling and administrative expenses	60,000	80,000	65,000	70,000
Income (loss) from operations	<u>\$150,000</u>	<u>\$ 60,000</u>	<u>\$ (25,000)</u>	<u>\$ (50,000)</u>

Analysis reveals the following percentages of variable costs in each division.

	I	II	III	IV
Cost of goods sold	70%	80%	75%	90%
Selling and administrative expenses	40	50	60	70

Discontinuance of any division would save 50% of the fixed costs and expenses for that division.

Top management is very concerned about the unprofitable divisions (III and IV). Consensus is that one or both of the divisions should be discontinued.

Instructions

- Compute the contribution margin for Divisions III and IV.
- Prepare an incremental analysis concerning the possible discontinuance of (1) Division III and (2) Division IV. What course of action do you recommend for each division?
- Prepare a columnar condensed income statement for Tryon Manufacturing, assuming Division IV is eliminated. Use the CVP format. Division IV's unavoidable fixed costs are allocated equally to the continuing divisions.
- Reconcile the total income from operations (\$135,000) with the total income from operations without Division IV.

Compute annual rate of return, cash payback, and net present value.

(SO 9, 10)

P23-4C Bensen Corporation is considering three long-term capital investment proposals. Each investment has a useful life of 5 years. Relevant data on each project are as follows.

	Project Ric	Project Rac	Project Roe
Capital investment	<u>\$140,000</u>	<u>\$150,000</u>	<u>\$180,000</u>
Annual net income:			
Year 1	13,000	18,000	27,000
2	13,000	17,000	22,000
3	13,000	13,000	16,000
4	13,000	12,000	13,000
5	<u>13,000</u>	<u>9,000</u>	<u>12,000</u>
Total	<u>\$ 65,000</u>	<u>\$ 69,000</u>	<u>\$ 90,000</u>

Depreciation is computed by the straight-line method with no salvage value. The company's cost of capital is 15%.

Instructions

- Compute the annual rate of return for each project. (Round to one decimal.)
- Compute the cash payback period for each project. (Round to two decimals.)
- Compute the net present value for each project. (Round to nearest dollar.)
- Rank the projects on each of the foregoing bases. Which project do you recommend?

Compute annual rate of return, cash payback, and net present value.


(SO, 9, 10)

P23-5C Betty Dillman is an accounting major at a midwestern state university located approximately 60 miles from a major city. Many of the students attending the university are from the metropolitan area and visit their homes regularly on the weekends. Betty, an entrepreneur at heart, realizes that few good commuting alternatives are available for students doing weekend travel. She believes that a weekend commuting service could be organized and run profitably from several suburban and downtown shopping mall locations. Betty has gathered the following investment information.

- Six used vans would cost a total of \$96,000 to purchase and would have a 3-year useful life with negligible salvage value. Betty plans to use straight-line depreciation.
- Ten drivers would have to be employed at a total payroll expense of \$70,000.

3. Other annual out of pocket expenses associated with running the commuter service would include Gasoline \$28,000, Maintenance \$2,800, Repairs \$3,500, Insurance \$3,200, Advertising \$1,500. (Exclude interest expense.)
4. Betty has visited several financial institutions to discuss funding for her new venture. The best interest rate she has been able to negotiate is 10%. Use this rate for cost of capital.
5. Betty expects each van to make ten round trips weekly and carry an average of five students each trip. The service is expected to operate 30 weeks each years. Each student will be charged \$16.00 for a round-trip ticket.

Instructions

- (a) Determine the annual (1) net income, and (2) net cash flow for the commuter service.
- (b) Compute (1) the annual rate of return, and (2) the cash payback period. (Round to two decimals.)
- (c) Compute the net present value of the commuter service. (Round to the nearest dollar.)
- (d)  What should Betty conclude from these computations?

P23-6C Oklahoma Clinic is considering investing in new heart-monitoring equipment. It has two options: Option A would have an initial lower cost but would require a significant expenditure for rebuilding after 4 years. Option B would require no rebuilding expenditure, but its maintenance costs would be higher. Since the option B machine is of initial higher quality, it is expected to have a salvage value at the end of its useful life. The following estimates were made of the cash flows. The company's cost of capital is 8%.

Compute net present value, and internal rate of return.
(SO 10)

	<u>Option A</u>	<u>Option B</u>
Initial cost	\$135,000	\$203,000
Net annual cash flows	\$31,000	\$40,000
Cost to rebuild (end of year 4)	\$50,000	\$0
Salvage value	\$0	\$10,000
Estimated useful life	8 years	8 years

Instructions

- (a) Compute the (1) net present value and (2) internal rate of return for each option. (*Hint: To solve for internal rate of return, experiment with alternative discount rates to arrive at a net present value of zero.*)
- (b) Which option should be accepted?