

EXERCISE 13-1 Net Present Value Method [LO1]

The management of Opry Company, a wholesale distributor of suntan products, is considering the purchase of a \$25,000 machine that would reduce operating costs in its warehouse by \$4,000 per year. At the end of the machine's 10-year useful life, it will have no scrap value. The company's required rate of return is 12%.

Required:

(Ignore income taxes.)

1. Determine the net present value of the investment in the machine.
2. What is the difference between the total, undiscounted cash inflows and cash outflows over the entire life of the machine?

EXERCISE 13-2 Internal Rate of Return [LO2]

Pisa Pizza Parlor is investigating the purchase of a new \$45,000 delivery truck that would contain specially designed warming racks. The new truck would have a six-year useful life. It would save \$5,400 per year over the present method of delivering pizzas. In addition, it would result in the sale of 1,800 more pizzas each year. The company realizes a contribution margin of \$2 per pizza.

Required:

(Ignore income taxes.)

1. What would be the total annual cash inflows associated with the new truck for capital budgeting purposes?
2. Find the internal rate of return promised by the new truck to the nearest whole percent.
3. In addition to the data already provided, assume that due to the unique warming racks, the truck will have a \$13,000 salvage value at the end of six years. Under these conditions, compute the internal rate of return to the nearest whole percent. (Hint: You may find it helpful to use the net present value approach; find the discount rate that will cause the net present value to be closest to zero. Use the format shown in Exhibit 13-4.)

EXERCISE 13-3 Uncertain Future Cash Flows [LO3]

Union Bay Plastics is investigating the purchase of automated equipment that would save \$100,000 each year in direct labor and inventory carrying costs. This equipment costs \$750,000 and is expected to have a 10-year useful life with no salvage value. The company's required rate of return is 15% on all equipment purchases. This equipment would provide intangible benefits such as greater flexibility and higher-quality output that are difficult to estimate and yet are quite significant.

Required:

(Ignore income taxes.)

What dollar value per year would the intangible benefits have to have in order to make the equipment an acceptable investment?

EXERCISE 13-4 Preference Ranking [LO4]

Information on four investment proposals is given below:

	Investment Proposal			
	A	B	C	D
Investment required	\$(85,000)	\$(200,000)	\$(90,000)	\$(170,000)
Present value of cash inflows	119,000	250,000	135,000	221,000
Net present value	\$ 34,000	\$ 50,000	\$ 45,000	\$ 51,000
Life of the project	5 years	7 years	6 years	6 years

Required:

1. Compute the project profitability index for each investment proposal.
2. Rank the proposals in terms of preference.