CAPITAL BUDGETING DECISION:

PRACTICE PROPOSED EQUIPMENT PURCHASE

The following is a random selection using the different types of schedule formats that are required for calculating the information given:

Clark Paints: The production department has been investigating possible ways to trim total production costs. One possibility currently being examined is to make the paint cans instead of purchasing them. The equipment needed would cost $200,000 with a disposal value of $40,000 and would be able to produce 5,500,000 cans over the life of the machinery. The production department estimates that approximately 1,100,000 cans would be needed for each of the next five years.

The company would hire three new employees. These three individuals would be full-time employees working 2,000 hours per year and earning $12.00 per hour. They would also receive the same benefits as other production employees, 18% of wages in addition to $2,500 of health benefits.

It is estimated that the raw materials will cost 25¢ per can and that other variable costs would be 5¢ per can. Since there is currently unused space in the factory, no additional fixed costs would be incurred if this proposal is accepted.

It is expected that cans would cost 45¢ per can if purchased from the current supplier. The company's minimum rate of return (hurdle rate) has been determined to be 12% for all new projects, and the current tax rate of 35% is anticipated to remain unchanged. The pricing for a gallon of paint as well as number of units sold will not be affected by this decision. The unit-of-production depreciation method would be used if the new equipment is purchased.

1). Please use this information and calculate the following items for this proposed equipment purchase:

* + Annual cash flows over the expected life of the equipment
  + Payback period
  + Annual rate of return
  + Net present value
  + Internal rate of return

2.) To help me understand this process, please explain why or why not you would recommend the acceptance of this proposal. If you could elaborate and support your answer would benefit best.

Thank you

Example EXCEL format:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Data:** |  |  |  | |
|  |  |  | Cost of new equipment | |
|  |  |  | Expected life of equipment in years | |
|  |  |  | Disposal value in 5 years | |
|  |  |  | Life production - number of cans | |
|  |  |  | Annual production or purchase needs | |
|  |  |  | Initial training costs | |
|  |  |  | Number of workers needed | |
|  |  |  | Annual hours to be worked per employee | |
|  |  |  | Earnings per hour for employees | |
|  |  |  | Annual health benefits per employee | |
|  |  |  | Other annual benefits per employee-% of wages | |
|  |  |  | Cost of raw materials per can | |
|  |  |  | Other variable production costs per can | |
|  |  |  | Costs to purchase cans - per can | |
|  |  |  | Required rate of return | |
|  |  |  | Tax rate | |
| **Cost to produce** | |  |  | |
|  | Annual cost of direct material: | | | |
|  |  |  | Need of cans per year | |
|  | Annual cost of direct labor for new employees: | | | |
|  |  |  | Wages | |
|  |  |  | Health benefits | |
|  |  |  | Other benefits | |
|  |  |  | Total wages and benefits | |
|  |  |  |  | |
|  | Total annual production costs | | | |
|  |  |  |  | |
|  | Annual cost to purchase cans | | | |
|  |  |  |  | |
|  |  |  |  | |
| **Part 1 Cash flows over the life of the project** | | | | |
|  |  |  |  | |
|  |  |  | Item | |
|  |  |  | Annual cash savings (make vs. buy) | |
|  |  |  | Tax savings due to depreciation | |
|  |  |  |  | |
|  |  |  | **Total annual cash flow** | |
| **Part 2 Payback Period** | | |  | |
|  |  |  |  | |
|  |  |  |  | |
|  |  |  |  | |
|  |  |  |  | |
| **Part 3 Annual rate of return** | | |  | |
|  | Accounting income as result of decreased costs | | | |
|  |  |  | Annual cash savings (before tax effect) | |
|  |  |  | Less Depreciation | |
|  |  |  | Before tax income | |
|  |  |  | Tax at % rate | |
|  |  |  | After tax income | |
|  |  |  |  | |
|  |  |  |  | |
|  |  |  |  | |
| **Part 4 Net Present Value** | | |  | |
|  |  |  |  | |
|  |  |  | Item | |
|  |  |  | Cost of machine | |
|  |  |  | Cost of training | |
|  |  |  | Annual cash savings | |
|  |  |  | Tax savings due to depreciation | |
|  |  |  | Disposal value | |
|  |  |  |  | |
|  |  |  | **Net Present Value** | |
| **Part 5 Internal Rate of Return** | | |  | | |  |  |  |  |  |  |
|  |  |  |  | | |  |  |  |  |  |  |
|  | **Trial and error method to determine IRR** | | | | |  |  |  |  |  |  |
| Item | | | |
| Cost of machine | | | |
| Cost of training | | | |
| Annual cash savings | | | |
| Tax savings due to depreciation | | | |
| Disposal value | | | |
|  | | | |
| Net Present Value | | | |
|  | | | |
|  | | | |
| Item | | | |
| Cost of machine | | | |
| Cost of training | | | |
| Annual cash savings | | | |
| Tax savings due to depreciation | | | |
| Disposal value | | | |
|  | | | |
| Net Present Value | | | |
|  | | | |
|  | **Excel Function method to calculate IRR** | | | |