Case Study: A&Co Company
(Source: Meyer&kiymaz, 2011)

A&Co Company will evaluate a new equipment for its production process. The list price of the equipment is $525,000, but A&Co expects to negotiate the price down to $500,000. A&Co expects to pay a common carrier $25,000 to transport the equipment from the manufacturer's plant to A&Co plant. The common carrier will not ensure the equipment during delivery, so A&Co must provide insurance while the equipment is in transit. A Company insurance agent has provided a premium quote of $1,000 for this coverage. Once the equipment arrives at A&Co manufacturing plant, the manufacturer will send a team to install, test, and calibrate the equipment before its integration into the production process. The manufacturer typically charges its customers $2,500 for this service. A&Co expects the manufacturer's installation team to use
$1,250 of raw materials in connection with testing and calibrating the equipment. A&Co 's controller has estimated that the accounts receivable and inventories associated with this investment will be, on average, $10,000 greater than the current liabilities associated with this investment during the project life.

A&Co Marketing Manager believes that the product life cycle, from inception through growth and maturity to product decline, will be five years. The Manager expects to achieve a 10 percent market share by the end of the second year after the product is introduced. That market share is expected to hold until the last year of the product life, when A&Co expects to command half of the remaining market share. The current market for this type of product is about 100,000 units per year, but the Manager believes the market will be 1,000,000 units per year at product maturity in Year 4. Based on expected technological innovations, the Manager expects the next generation of products to be introduced in Year 4, which will cause the market for this product to cease by the end of Year 5. Table 1 provides expected sales volumes in units and market shares for the new product's five-year life.

Table 1. A&Co Expected Sales Volume

Year	Sales (Units)	Expected Market Share (%)
1	5,000	5
2	55,000	10
3	90,000	10
4	100,000	10
5	10,000	50
Total	260,000	

Based on prices charged for the prior generation of similar products, A&Co believes that the appropriate selling price for this product is $15.00 per unit. A&Co Manager expects this price to hold for the first two years of the product life cycle, with an increase in the selling price to $15.50 per unit for the last three years of the product life. A&Co Manager of marketing expects to incur about $7,500 per year of fixed costs on marketing campaigns during the first four years that the product is on the market. Since this new product will be in the decline stage of its life cycle during Year 5, A&Co does not plan to engage in marketing campaigns in the last year. A&Co expects to provide its sales force with its customary commissions equal to 1.5 percent of the selling price of this new product. Personnel from A&Co 's operations department have reviewed the sales forecasts submitted by marketing and believe that the equipment has the capacity to handle expected volumes. Further, the operations manager estimates variable manufacturing costs for this product as $11.00 per unit for the first two years, increasing to $11.25 per unit for the last three years of the product's life. Variable manufacturing costs include direct materials and direct labor, as well as costs for repairs and maintenance, tools and supplies, and utilities. A&Co operations manager expects to incur $15,000 per year of fixed manufacturing overhead. Fixed manufacturing overhead includes additional costs such as property taxes, property insurance, and the salaries and benefits of production support staff that would need to be hired if this project is accepted. A&Co operations manager believes that performing a minor overhaul of the equipment will be necessary at the end of Year 3 at a cost of $50,000. A&Co Finance Manager indicates that A&Co will not need to seek external financing for this equipment purchase because the firm can buy it using A&Co available cash. Based on prior experience, the controller determines that the cost estimates provided by the operations manager and the Marketing Manager marketing are reasonable. A&Co human resources manager, after meeting with the operations manager, has determined that A&Co has personnel with the training necessary to properly operate the equipment. Corporate counsel has verified that the new product will not infringe on any existing patent rights and that the potential for product liability claims is remote. A&Co controller has also determined that A&Co has adequate insurance to cover any product liability claims that may arise. Once the necessary input has been received from all appropriate disciplines,future annual cash inflows and outflows related to this investment can be forecast. the operations manager has estimated that the equipment originally purchased for $539,750 will have a terminal value of $25,000 at the end of Year 5. assumption is taxed at 35 percent for ordinary income and 15 percent on long-term capital gains (LTCG), Cost of equity is 12%. depreciation method used Modified Asset Cost Recovery System (MACRS) y1= 33.33%, y2= 44.45%, y3 = 14.81%, y4 =7.41%, y5=0%.

1. Provide the initial investment
2. Provides the forecast of A&Co expected annual cash inflows from operating activities for each year of the project's expected life. Cash inflows are based on the expected sales volumes and price points provided by A&Co marketing Manager.
3. Provides the forecast of A&Co cash outflows from operating and marketing activities related to the new product based on the cost behaviors provided by the operations manager and the Manager of marketing.
4. Provide the net cash flow for each year of the project life.
5. Evaluate the project.