TenStep, Inc.

TenStep Supplemental Paper

25 February 2008

Scenario Analysis

Scenario analysis is applied when independent variables in a relationship are interrelated. The basic disadvantage of sensitivity analysis, which involves changing only one variable at a time, is overcome in scenario analysis. Scenario analysis helps in creating probable situations by combining the changing values of independent variables at the same point in time. Typically, a project is evaluated under different scenarios:

- The optimistic scenario, where everything is favorable (high demand, high selling price, and low variable cost)
- The pessimistic scenario, where most of the independent variables are adverse (low demand, low selling price, and high variable cost)
- The normal scenario, which assumes average demand, average selling price, and average variable cost

The basic objective of scenario analysis is to get the plausible scenarios in the most favorable, the most adverse, and normal situations without much heed to the internal inconsistency among independent key variables.

Net Present Value (NPV) under three typical scenarios

Variables	Scenario (1)	Scenario (2)	Scenario (3)
Initial investment	$300	$300	$300
Unit selling prices	$30	$20	$40
Demand	$25	$40	$15
Revenues	$750	$800	$600
Variable cost	$300	$450	$200
Fixed cost	$50	$50	$50
Depreciation (Dep.)	$30	$30	$30
Pre-tax profit	$370	$270	$320
Tax @ 50%	$185	$135	$160
Profit after tax (PAT)	$185	$135	$160

Annual cash flow (PAT + Dep.)	$215	$165	$180
Project life	$5	$5	$5
Salvage value	0	0	0
Net present value (discount rate @15%)	**$720.68**	**$553.08**	**$603.36**