



## Risk Management on Pelican Rotoflex Pvt. Ltd.

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### ABSTRACT

"Company generally focus on the risks that they can see" -stere matthesen

The Pelican rotoflex Pvt. Ltd. Is produce printing machine in large scale and export into 20 different countries. Main product of the company is Printing machine, lamination machine, and Rewinding machine namely roto gravure printing machine, flexo graphic printing machine, coating and laminating machine, sitting and rewinding machine. Company used "ISO: 9002" quality controlling system. Company is having sufficient administrative staff.

The objective of risk management is understood by analysis of risk. The risk management is proper protection of company's assets and profitability against loss from pure risk. This is accomplished by systematic analysis of risk and the employment of various techniques aimed at reducing potential loss from these risk.

The risk management analyses risk in given data like techniques of risk analysis, sources measure and perspective on risk, project selection under risk, and decision tree analyses. Company is trying to give data as much as possible from them.

**Keywords : Risk Management, Sensitivity Analysis, Simulation Analysis, Scenario Analysis**

### Introduction:

"Risk analysis helps establish a good security posture"

Risk is inherent in almost every business decision. More so in capital budgeting decision as they involve costs and benefits extending over a long period of time during which many things can change in unanticipated ways.

Financial analysis generally evaluates capital investment in two phases in the 1st phase. The analyst tries to calculate the NPV, IRR and other measures of investment. In the second phase, the analyst identifies the underlying sources of risk and explores the consequences there of risk analysis is one of the most complex and slippery aspect of capital budgeting. Many different techniques have been suggested and no single technique can be deemed as best in all situations. The variety of techniques suggested to handle risk in capital budgeting fall into two broad categories.

- Techniques that consider the stand alone risk of a project.
- Techniques that consider the risk of a project in the context of the firm or in the context of the market.

### Objective of the Study

Researcher would like to Research on effect of Risk Management of Business enterprise by reviewing various reference Books and articles on Risk Management.

To evaluate the Techniques of Risk Analysis with special reference to Sensitivity Analysis; Stimulation Analysis and Scenario Analysis on the base of assumed data and published data of Pelican Rotoflex pvt. Ltd. for establishing new unit of existing organization.

### Techniques of Risk Analysis

[A] Analysis of Stand along Risk

#### (i) Sensitivity Analysis

It provides information as to how sensitive the estimated project. Parameters, namely, the expected cash flow, the discount rate and the project life are to estimation errors. "sensitivity analysis is a behavioral approach that uses a number

of possible values for a given variable to assess its impact on a firm's returns."

To understand the nature of sensitivity analysis let us forecast the cash flow. pelican rotoflex pvt. Ltd. Is considering setting up a new company near Bangalore based on pelicans previous experience, the project staff of pelicans developed the figures shown in exhibit. The salvage value has been assumed to be nil and the cost of capital are to be 12 %.

**Table-1 Cash flow forecast for pelican rotoflex pvt. Ltd. (Rs.in crore)**

Serial no.	Particular	Year 1 - 10
1.	Investment(year 0 is 20,00,000)	-
2.	sales	1800000
3.	Variable costs(66 2/3 % of sales)	1200000
4.	Fixed costs	100000
5.	Depreciation	200000
6.	Pre-tax profit	300000
7.	Taxes	100000
8.	Profit after tax	200000
9.	Cash flow operation	400000
10.	Net cash flow	400000

Since the cash flow from operations is an annuity, the NPV of pelican rotoflex pvt. Ltd. Is,

$$= (-20, 00,000) + 4, 00,000 * PVIFA(r = 12 \%, n = 10) \\ = (-20, 00,000) + 4, 00,000 * (5.650) \\ = 2, 60,000$$

The NPV based on the value of underlying variables is positive. However, aware that underlying variables can vary widely and hence it would like to explore the effect of such variations on the NPV.

#### (ii) Simulation Analysis

Simulation is a statistical technique employed to have an insight into risk in a capital budgeting decisions. This technique

applies pre determined probability distribution and random number to estimate risky outcomes.

In real life situations, simulation is done only on the computer because of the computational tedium involved. We will work with a simple example where simulation has been done manually.

Pelican rototflex pvt. Ltd. Is evaluating an investment project whose net present value has been modeled as follows:

$$NPV = \sum_{t=1}^n \frac{\text{annual cash flow}}{(1 + \text{risk - free rate})^t} - \text{initial inv.}$$

Risk free rate = 10 %  
Initial inv. 13, 00,000

**Procedure:**

The steps involved in stimulation analysis are as follows.

- (1) The model of the project shows how the net present value is related to the parameters and the variables.
- (2) Specify the value of parameters and the probability distribution of the variables.

- (3) Select a value, at random, from the probability distribution of each of the variables.
- (4) Determine the net present value corresponding to randomly generated value of variable.
- (5) Repeat step 3 and 4 a number of times to get a large number of simulated net present value.

Annual cash flow and the project life (n) are stochastic exogenous variables with the following distribution. Table-2

Annual cash flow (Rs.in lac.)		Project life	
Value	Probability	Value	Probability
1000	0.02	3	0.05
1500	0.03	4	0.10
2000	0.15	5	0.30
2500	0.15	6	0.25
3000	0.30	7	0.15
3500	0.20	8	0.10
4000	0.15	9	0.03
		10	0.02

**Table-3 Correspondence between value of variables and two digit random numbers.**

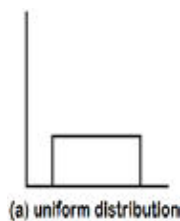
Annual cash flow				Project Life			
Value (Rs.in lac.)	Probability	Cumulative probability	Two digit random no.	value	Probability	Cumulative probability	Two digit random no.
1000	0.02	0.02	00 to 01	3	0.05	0.05	00 to 04
1500	0.03	0.05	02 to 04	4	0.10	0.15	05 to 14
2000	0.15	0.20	05 to 19	5	0.30	0.45	15 to 44
2500	0.15	0.35	20 to 34	6	0.25	0.70	45 to 69
3000	0.30	0.65	35 to 64	7	0.15	0.85	70 to 84
3500	0.20	0.85	65 to 84	8	0.10	0.95	85 to 94
4000	0.15	1.00	86 to 99	9	0.03	0.98	95 to 97
				10	0.02	1.00	98 to 99

**Table-4 Simulation result**

year	Annual cash flow		Project life		Net present value
	Random number	Corresponding value of annual C.F.	Random no.	Corresponding value of	
1	53	3000	97	9	4277
2	66	3500	99	10	8506
3	30	2500	81	7	(829)
4	19	2000	09	4	(7660)
5	31	2500	67	6	(2112)
6	81	3500	70	7	4039
7	38	3000	75	7	1605
8	48	3000	83	7	1605
9	90	4000	33	5	2163
10	58	3000	52	6	66

**Some commonly used distribution.**

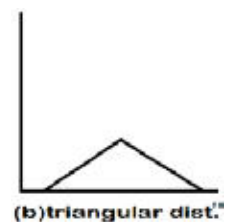
**A. Uniform distribution**



The uniform distribution makes sense when the expert has an idea about what the range within which a variable is likely to fall, but is unable to differentiate between values within this

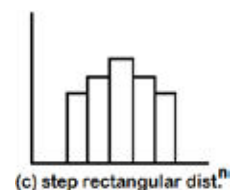
range. Its practical appeal lies in its simplicity: you need to know just two parameters, viz, the minimum and maximum values, to define the uniform distribution. The mean of this distribution is simply the arithmetic average of the minimum and maximum value.

**B. Triangular distribution**



Perhaps the most popular distribution used in practice, the triangular dist. Is intuitively very appealing. It is described by three parameters the minimum, maximum, and most likely value. The mean value of a triangular distribution is the arithmetic average of these three numbers. By adjusting the parameter values, the triangular dist. Can be used to represent both symmetric and skewed dist.

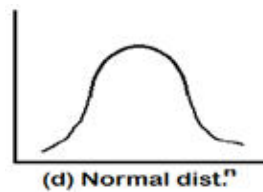
**C. Step rectangular distribution**



A commonly used dist. Is practice the step rectangular dist.

May be viewed as a refinement over the triangular dist. It enables the expert to divide the range of possible values into a few intervals and assign different probabilities to these intervals.

**D. Normal distribution**



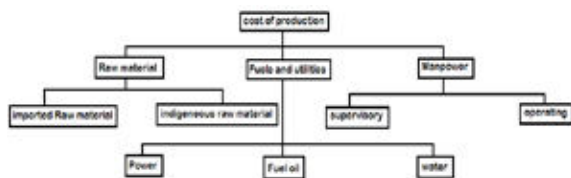
This is a very important theoretical distribution. However, it is of limited use in risk analysis wherein the variation that are sought to be captured and caused neither by statistics errors nor random distribution.

**Issues in applying simulation.**

Some of the important issues in the application of simulation are...

1. What should the output be?
  2. Is product variability enough?
  3. How should the extreme values be used?
  4. How should the result of simulation be used?
- And for that following detail are require.

**Level of Details**



**(iii) Scenario Analysis**

In sensitivity analysis, one variable is varied at a time. In scenario analysis, several variables are varied simultaneously. Most commonly three scenarios are considered: expected (or normal) scenario, pessimistic scenario, and optimistic scenario. In the normal scenario, all variables assume their expected (or normal value); in the pessimistic scenario, all variable assume their optimistic value.

The NPV of the pelican rototflex Pvt. Ltd. Under three scenarios is given in this table.

**Table-5 Pessimistic, normal and optimistic scenario (Rs in crores)**

no.		Pessimistic scenario	Expected scenario	Optimistic scenario
1.	Investment	24	20	18
2.	Sales	15	18	21
3.	Variable costs(% of sales)	10.5(70%)	12(66.7%)	13.65(65%)
4.	Fixed costs	1.3	1.0	0.8
5.	Depreciation	2.4	2.0	1.8
6.	Pre-tax profit	0.8	3.0	4.75
7.	Taxes	0.27	1.0	1.58
8.	Profit after tax	0.53	2.0	3.17
9.	Cash flow operation	2.93	4.0	4.97
10.	Net cash flow	(7.45)	2.60	10.06

Scenario analysis has its own limitation.

1. It is based on assumption that there are few well – delineated scenario. This may not be true in many cases.
2. Scenario expands the concept of estimating the expected values.

- (iv) Break Even Analysis
- (v) Decision Tree Analysis

**[B] Analysis of contextual Risk**

- (i) Corporate Risk Analysis
- (ii) Market Risk Analysis

**Conclusion**

The pelican rototflex Pvt. Ltd. Is directly or indirectly calculate the techniques of risk. The pelican is having better risk management in their company in that measure the almost all technique to know the risk in future. The purpose is to control the risk. In the pelican sensitivity analysis result is 2, 60,000. It is positive. So, the investment decision in the project is profitable. In stimulation analysis – is not give proper result because it is on assumption In scenario analysis three type of analysis are to be calculate pessimistic, expected, optimistic. The expected and optimistic result is positive and pessimistic result is negative. in this company the risk is less, so the risk management is less in the pelican.

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