INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH & DEVELOPMENT

ISSN 2278 – 0211 (Online)

An Analytical Tool of Women Entrepreurship: Capital Budgeting

Seema Rani
Research Scholar, M.J.P. Rohilkhand University, Bareilly, U.P., India
Dr. Harish Singh
Professor, Department of Business Administration, Maharaja Surajmal Institute
(Affiliated to Guru Gobind Singh Indraprastha University), New Delhi, India

Abstract:
In India about 50% of the total population constitute women, but women workers constitute about 16% of the total population and out of these 16% , 82% work is in unorganised sector. With an increase in women education, more and more tend to join work force and with increase in the technically qualified women, women are finding increasing opportunities in establishing their own enterprises. For establishing their own entreprises, the investment decisions, also known as Capital Budgeting Decisions should be taken into account.It requires comparison of costs against benefits over a long period. The deployment of finances on additional plants and equipments cannot be recovered in a short run. Such investments may affect revenues for the time period ranging from 2 to 20 years or more. Such decisions involve a careful consideration of various factors such as profitability, safety, liquidity, solvency etc. The present paper deals with this important function of Women as a finance manager.

Key words: *Women entrepreur, capital budgeting, optimum capital structure, tactical, strategic, Working Capital, Minimum rate of return, Risk and Certainty, Cumulative Case Inflows*

1. Introduction

Self employment women are contributing in significant ways to economic health and competitiveness in countries around the world. The contribution of women in business has been increasing tremendously at global level during the last decade. Women in advanced economies own more than 25% of all the business. At present in India, only 9.5% of women entrepreneurs are managing the small enterprises. A number of factors are contributing to this phenomena. Some of these are spread of education, change in lifestyle and growth in IT & service sector in the economy, but the most important factor which contributes a lot in a successful enterprise are financial decisions and investment decisions.

A finance manager is concerned with the financing as well as the investment decisions / Capital budgeting decisions. Financing decisions relate to:

- Determination of the amount of long –term finance required
- Sources of long term finances and
- The technique of obtaining optimum capital structure
- The capital budgeting decisions require comparison of cost against benefits over a long period. These benefits are:
- Replacement of fixed assets due to their worn out or becoming outdated on account of new technology
- Expansion of Production facility due to increase in demands.
- Diversification of business in several markets in order to reduce its risk.
- An industry where technology is rapidly changing requires funds for research and development.
- Fund for miscellaneous purposes are required such as pollution control equipments etc. which are not profit oriented.

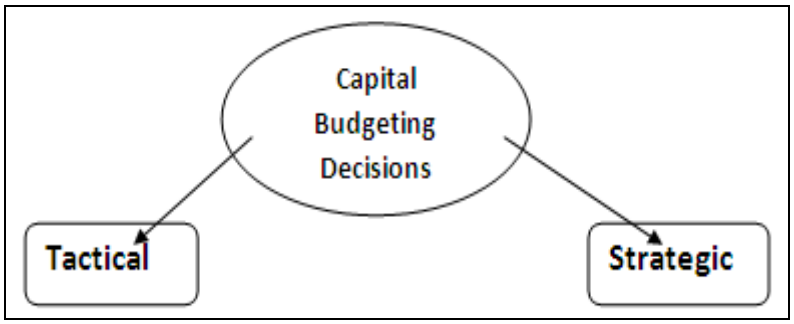

Figure 1

	Funds	Differs From Past Practices Of The Company
Tactical	Small	No
Strategic	High	Yes

Table 1: Tactical Vs. Strategic Investment Decisions

Special care should be taken for Capital budgeting decisions due to different factors given below:

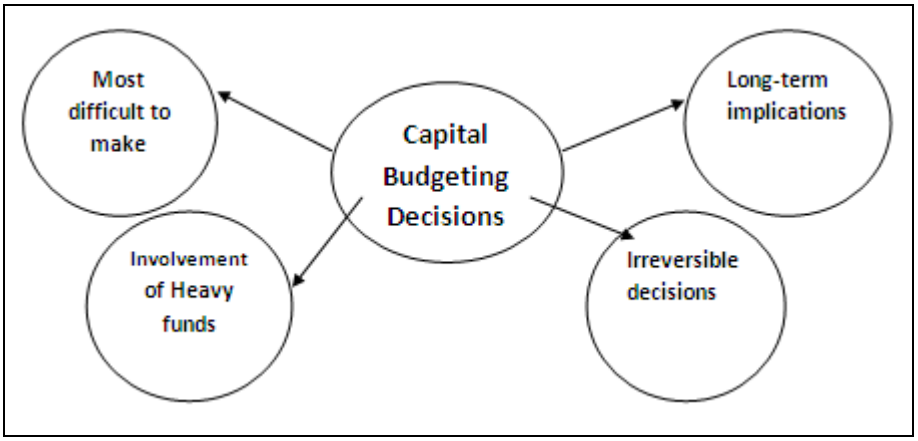

Figure 2

2. Importance of Capital Budgeting

There are five important factors affecting Capital Investment Decisions:

- The amount of investment (By viewing Cost of new projects, Installation cost, Working Capital, Proceeds from sale of asset, Tax effects and investment allowance, computations of capital investment is done)
- Minimum rate of return on investment: Cut-off Point is the point below which a project would not be accepted. If 10% is the desired rate of return, it means that the cut-off point is 10%.The project would be rejected, if below10%.
- Return expected from the Investment
- Ranking of the Investment proposals
- Risk and Certainty.

3. Capital Budgeting Process

The capital budgeting process involves different stages in the life of an investment project. Starting from the generation of the idea of a project and ending with the benefits of the project, it involves the following stages:

- Project generation-It is the first stage of investment project which recognize the various opportunities for profitable investment. At this stage various alternatives are identified.
- Preliminary Screening process – Various alternatives should be evaluated on the basis of their feasibility. A rough estimated rate of return should also be made according to entrepreneur expectations.
- Detailed project evaluation – It involves the following steps:

- Estimation of cash outflow (initial investment)
- Estimation of cash inflows
- Application of suitable capital budgeting method like payback period, ARR, NPV, IRR and PI.
- Selection of the project

- Implementation of selected project- After selection of a project, it should be implemented.
- Control of capital expenditure - During implementation, proper control should be taken on the money spent.

The main methods used for the Capital Budgeting Appraisal methods are:

3.1. Pay- Back Period Method

Calculation of Pay Back Period in even case inflow case:

A project requires Rs.20000/- as initial investment and the project will generate an annual cash inflow of Rs.5000/- for ten years.

Year	**Cash Inflows (Rs.)**	**Cumulative Case Inflows (Rs.)**
	5000	5000
2	5000	10000
3	5000	15000
4	5000	20000
5	5000	25000
6	5000	30000
7	5000	35000
8	5000	40000
9	5000	45000
10	5000	50000

Table 2

Then, the payback period = Initial Investment/Annual Cash Inflow
= Rs. 20000/-/Rs.5000/-
= 4 Years.

Calculation of Pay Back Period in uneven case inflow case:

A project requires Rs.20000/- as initial investment and the project will generate an annual uneven cash inflow as follows:

Year	Cash Inflows (Rs.)	Cumulative Case Inflows (Rs.)
	6000	6000
2	8000	14000
3	5000	19000
4	4000	23000
5	4000	27000

Table 3

Then, the payback period = 3 years + 1000/4000
= 3.25 years.

A project whose actual payback period is more than what has been pre-determined by the management, in that case the project is straightway rejected.

3.1.1. Case Study- I

XYZ company Ltd. is producing materials mostly by manual labour. Now, the company wants to replace manual labour by a new machine. Two models M & N of a new machine are available. Which machine is preferable by payback method from the following information?

	Machine M	**Machine N**
Estimated life of machine	4 Years	5 Years
Cost of machine	Rs.9000/-	Rs.18000/-
Estimated savings in scrap	Rs.500/-	Rs.800/-
Estimated savings in direct wages	Rs.6000/-	Rs.8000/-
Additional cost of maintenance	Rs.800/-	Rs.1000/-
Additional cost of supervision	Rs.1200/-	Rs.1800/-

Ignore Taxation

3.1.2. Solution

	Machine M	Machine N
	Rs.	Rs.
Estimated savings in scrap	500	800
Estimated savings in direct wages	6000	8000
Total savings(i)	6500	8800
Additional cost of maintenance	800	1000
Additional cost of supervision	1200	1800
Total additional costs(ii)	2000	2800
Net cash inflow = (i) –(ii)	4500	6000

Table 4

Then, the payback period = Initial Investment/Annual Cash Inflow
M = 9000/4500= 2 Years N= 18000/6000 = 3 Years
Machine M has a shorter payback period, hence it should be preferred to machine N.
Limitation: But, sometimes this method ignores the returns after the payback period. For e.g.:

	Project A	Project B
Initial Investments	Rs.10000/-	Rs.10000/-
Cash Inflows (Year wise) in Rs.		
1	Rs.4000/-	Rs.3000/-
2	Rs.4000/-	Rs.3000/-
3	Rs.2000/-	Rs.3000/-
4	-	Rs.3000/-
5	-	Rs.3000/-
Payback period	3 years	3. 33 years

In this case, project A has a shorter payback period in comparison to project B. Hence, it should be preferred. But it is not a rational decision because Project B continues to give returns after payback period also, hence Project B is profitable.

3.2. Discounted Cash Flow Method
It comprises of three methods-
Net Present Value (NPV) Method: If NPV is greater than zero, accept the proposal and if NPV is less than zero, reject the proposal.

3.2.1. Case Study – II
XYZ Ltd. wants to replace the plant. Three proposals are there, each costing Rs.250000/- and have an estimated life of 5 years, 4 years and 3 years respectively. The Plant's required rate of return is 10%. The anticipated net cash inflows after taxes for the three plants are as follows:

Years	Plant I	Plant II	Plant III
	Rs.	Rs.	Rs.
1	80000	110000	130000
2	60000	90000	110000
3	60000	85000	20000
4	60000	35000	-
5	180000	-	-

Table 5

Solution: Firstly, we will calculate the PVF at 10% for 1,2,3,4 and 5 years respectively with the help of the formula:
$PVF = (1 – (1 + i)^{-n}) / i$

Yr.	PVF (10%)	Plant I		Plant II		Plant III	
		Inflow	P.V.	Inflow	P.V.	Inflow	P.V.
1	0.909	80000	72720	110000	99990	130000	118170
2	0.826	60000	49560	90000	74340	110000	90860
3	0.751	60000	45060	85000	63835	20000	15020
4	0.683	60000	40980	35000	23905	-	-
5	0.621	180000	111780	-	-	-	-
Gross P.V.			320100		262070		224050
Cash Outflow			250000		250000		250000
Net Present Value			70100		12070		25950

Table 6

The NPV of Plant I is higher, i.e. Rs.70100/-, hence it should be recommended to management for acceptance.
NPV Method does not ignore 'Time Value of Money' and also takes into account return after payback period also, but payback does not have these advantages.
Excess Present Value Index Method:
In CASE STUDY II, if we calculate the Present Value Index (PVI) of the three plants I, II and III, then we get:
PVI of Plant I = 320100/250000 = 1.2804
PVI of Plant II = 262070/250000 = 1.04828
PVI of Plant III = 224050/250000 = 0.8962
Since, PVI of Plant I is highest, hence Plant I is preferable.
Internal Rate of Return Method:

3.2.2. Case Study III

XYZ Ltd. Wants to buy machine A or B. Machine A costing Rs.75000/- and its expected life is 6 years with no salvage value. It would generate a net cash flow of Rs.20000/- per year. Machine B, costing Rs.50000/- and its expected life is 6 years with no salvage value. It would generate a net cash flow of Rs.15000/- per year. Assuming the cost of capital of both the machines is 10%. Which machine is to be recommended.

Year	14%	15%	16%	17%	18%	19%
1-6	3.889	3.784	3.685	3.589	3.498	3.326

Table 7

The present value factors at 10% rate of discount for the years 1 to 6 are given as follows:

Year	1	2	3	4	5	6
P.V. factor at 10%	0.909	0.826	0.751	0.683	0.621	0.564

Table 8

3.2.2.1. Solution

Computations of NPV of machines

Year	Net Cash Flows Of Machine A (Rs.)	Net Cash Flows Of Machine B (Rs.)	PV factor at 10% (Rs.)	PV of machine A (Rs.)	PV of machine B (Rs.)
1	20000	15000	0.909	18180	13635
2	20000	15000	0.826	16520	12390
3	20000	15000	0.751	15020	11265
4	20000	15000	0.683	13660	10245
5	20000	15000	0.621	12420	9315
6	20000	15000	0.564	11280	8460
Total present value of cash inflows				87080	65310
Total present value of cash outflows				75000	50000
NPV				12080	15310

Year	14%	15%	16%	17%	18%	20%
1-6	3.889	3.784	3.685	3.589	3.498	3.326
Present value of annual cash inflows of machine A for 6 years	20000 × 3.889 = 77780	20000 × 3.784 = 75680	20000 × 3.685 = 73700	20000 × 3.589 = 71780	20000 × 3.498 = 69960	20000 × 3.326 = 66520
Present value of annual cash inflows of machine B for 6 years	15000 × 3.889 = 58335	15000 × 3.784 = 56760	15000 × 3.685 = 55275	15000 × 3.589 = 53835	15000 × 3.498 = 52470	15000 × 3.326 = 498900

Table 9

Computation of Internal Rate of Return:
Machine A:
The present value of annual cash inflows @ 16% for 6 years is close to Rs. 75000/-, i.e. Rs.73700/-
Less present value of cash outflows Rs.75000/-
Net present value Rs.1300/-
So, at 10% NPV is Rs.12080/-
And at 16% NPV is Rs.1300/-
Therefore, Internal Rate of Return for Machine A is 10% + {12080/(12080 + 1300)} × 6 = 15.4%
Similarly, for Machine B:
The present value of annual cash inflows @ 20% for 6 years is close to Rs. 50000/-, i.e. Rs.49890/-
Less present value of cash outflows Rs.50000/-
Net present value Rs.110/-
So, at 10% NPV is Rs.15310/-
And at 16% NPV is Rs.110/-
Therefore, Internal Rate of Return for Machine A is 10% + {15310 / (15310 + 110)} × 10 = 19.90%
Since, Machine B has a higher internal rate of Return. Hence it is preferred over Machine A.
Accounting or Average Rate of Return (ARR) Method

3.2.3. Case Study IV

A new machine costing Rs.50000/- with a life of 5 years and no salvage value is to be installed. The company's tax rate is 50% and no investment allowance is allowed. The company uses the straight line method of depreciation. From the following information, calculate the ARR.

Year:	1	2	3	4	5
Net Income before Depreciation: And tax (Rs.)	10000	11000	14000	15000	25000

3.2.3.1. Solution

Year	Net Income before Dep. & Tax (Rs.)	Depreciation	Net Income (Rs.)	Tax (Rs.)	Income after tax (Rs.)	Cash Flow (Rs.)	Cumulative cash flow (Rs.)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	10000	10000	-	-	-	10000	10000
2	11000	10000	1000	500	500	10500	20500
3	14000	10000	4000	2000	2000	12000	32500
4	15000	10000	5000	2500	2500	12500	45000
5	25000	10000	15000	7500	7500	17500	62500

Table 10

Average Income after tax: (0 + 500 + 2000 + 2500 + 7500) /5 = Rs.2500/-
Average Investment = 50000/2 = Rs.25000/-
ARR = Average Income after tax / Average Investment = (2500/25000) × 100 = 10 **%**
Sometimes in Capital Budgeting, Capital Rationing is adopted. Capital Rationing is thus, the allocation of funds to most desirable projects due to limitations on the availability of financing.

3.2.4. Case Study V

A Firm has Rs.600000/- available for investment. The cost of capital is 10%. There are 10 proposals. Which proposals to choose.

Proposals	Cost of the Project (Rs.)	Internal Rate of Return (%)	NPV (Rs.)
1	200000	7	14000
2	230000	8	27000
3	200000	9	7000
4	200000	23	120000
5	120000	19	54000
6	150000	17	57000
7	90000	16	22500
8	300000	13	64800
9	360000	12	42000
10	500000	11	40000

Table 11

3.2.4.1. Solution

First we will rank the proposals:

Proposals	Cost of the Project (Rs.)	Cumulative Total Costs (Rs.)	Internal Rate of Return (%)	NPV (Rs.)
4	200000	200000	23	120000
5	120000	320000	19	54000
6	150000	470000	17	57000
7	90000	560000	16	22500
8	300000	860000	13	64800
9	360000	1220000	12	42000
10	500000	1720000	11	40000
Cut Off				
3	200000	1920000	9	7000
2	230000	2150000	8	27000
1	200000	2350000	7	14000

Table 12

The proposals 1, 2 and 3 are below 10% cost of capital, hence rejected.

Other proposals are above 10% and thus their combinations can be selected.

Since, a firm has Rs.600000/- available for investment, hence the firm should accept proposals from 4 to 7 involving a capital expenditure of Rs.560000/-.

4. Recommendations and Conclusion

Through Capital Budgeting Techniques, the objective is to correlate the benefits to costs in a manner which is consistent with the profit maximization objective of the business. It helps in planning the deployment of available capital for the purpose of maximizing the long term profitability of the firm.

5. References

1. Soloman E., Theory of Financial Management (New Yorkial Management and Policy, 1983.
2. Vohra, N.D., Quantitative Techniques in Management, Tata McGraw Hill Publishing Company Limited, Third Reprint, 2002.
3. Mishra M. N., Principles and Practices of Insurance, S. Chand and Company Ltd.,2011.
4. Maheshwari S.N., Elements of Financial Management, Sultan Chand & Sons, 2009
5. Kothari, C.R., Quantitative Techniques, Vikas Publishing House, 2007
6. Agarwal L.N. & Diwan P., Research Methodology and Management Decisions, Global Business Press, 1998.
7. Tripathi P.C., A textbook of Research Methodology in Social Sciences, Sultan Chand and Sons, 2003