

A Study on Investment Decisions of Different Projects at Chakravuyha Software Technologies Pvt Ltd

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ABSTRACT

Investment Decisions as a technique of capital budgeting to make decision whether and how to invest available funds in long term or short term while anticipating high returns. The study aim was to about choosing the profitable and suitable projects with higher possible returns & risk for their investments on various projects.

KEYWORDS: Investment decisions, Decision Making, NPV Analysis, Profitability Index

How to cite this paper: K Mahesh Kumar | Dr. P. Basaiah "A Study on Investment Decisions of Different Projects at Chakravuyha Software Technologies Pvt Ltd" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-5 | Issue-5, August 2021, pp. 1547-1550,
URL: www.ijtsrd.com/papers/ijtsrd45111.pdf



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INTRODUCTION

Investment decision is also termed as the capital budgeting. Capital budgeting or investment decision means the process of taking decisions when investing in the capital expenditure. Capital budgeting is a process of evaluating investments and huge expenses in order to obtain the best returns on investment. An organization is often faced with the challenges of selecting between two projects/investments or the buy vs replace decision.

Ideally, an organization would like to invest in all profitable projects but due to the limitation on the availability of capital an organization has to choose between different projects/ investments.

Need for the study;-

➤ The present study is mainly about to choosing the right & profitable and suitable projects from five different clients of the **CHAKRAVUYHA SOFTWARE TECHNOLOGIES PRIVATE LIMITED.**

Scope of the study;-

➤ The study was conducted to analysis the **INVESTMENTS DECISIONS OF DIFFERENT PROJECTS in CHAKRAVUYHA SOFTWARE TECHNOLOGIES PRIVATE LIMITED.**

Objectives of the study;-

- To study the techniques of capital budgeting, presently adopted by the CHAKRAVUYHA SOFTWARE TECHNOLOGIES PRIVATE LIMITED.
- To evaluate all projects and select the profitable projects for the company.
- To analysis the difference of cash flows on various clients of the company.

Research Methodology;-

Primary & secondary sources;

- Collected information through interactions from various personnel (at different hierarchies) in the departments of Finance and Accounts at

CHAKRAVUYHA SOFTWARE TECHNOLOGIES. In secondary data was collected from annual reports and websites. Books relating to the projects

Limitations:-

- The study is confined to Capital Budgeting techniques of **Chakravuyha Software Technologies Private Limited** Hyderabad only.
- The study is limited to five various clients of **Chakravuyha Software Technologies** Only for the period of 2018 to 2020.

Company clients



NVP Analysis

NPV is used in capital budgeting and investment planning to analyze the profitability of a projected investment or project.

Net present value= Net present value of cash Inflows – Net Present value of Cash Outflows

Calculation of NPV on project A

Months	CASH INFLOWS	PV FACTORS @10%	PRESENT VALUE OF CASH INFLOW
1	300000	0.909	272700
2	275000	0.826	227150
3	300000	0.751	225300
4	320000	0.683	218560
Total present value of cash inflow			943710

Net Present Value of cash outflows = 320000

Net Present Value = 943710- 320000

(Net Present Value = 623710)

R Programming on Project A

- > library(FinCal)
- > initialinvestment<-320000
- > cashflows<-c(200000,215000,275000,325000)
- > cf<-c(-initialinvestment,cashflows)
- > t=0.1
- > NPV=npv(t,cf)
- > NPV
- [1] 467890
- >

NPV on Project B

Months	CASH INFLOWS	PV FACTORS @10%	PRESENT VALUE OF CASH INFLOW
1	250000	0.909	227250
2	275000	0.826	227150
3	300000	0.751	225300
4	392880	0.683	268337.04
Total present value of cash inflow			948037.04

Net Present Value of cash outflows = 594000

Net Present Value = 948037.04 – 500000

Net Present Value = 448037.04

R programming on Project B

- > library(FinCal)
- > initialinvestment<-594000
- > cashflows<-c(250000,275000,300000,392880)
- > cf<-c(-initialinvestment,cashflows)
- > t=0.1
- > NPV=npv(t,cf)
- > NPV= [1] 448037.04

NPV on Project C

Months	CASH INFLOWS	PV FACTORS @10%	PRESENT VALUE OF CASH INFLOW
1	125000	0.909	113625
2	160000	0.826	132160
3	200000	0.751	150200
4	215000	0.683	146845
Total present value of cash inflow			542830

Net present value of cash outflows = 300000

Net present value = 542830-300000

Net Present Value = 242830

R Programming on project C

- > library(FinCal)
- > initialinvestment<-300000
- > cashflows<-c(125000,160000,200000,215000)
- > cf<-c(-initialinvestment,cashflows)
- > t=0.1
- > NPV=npv(t,cf)
- > NPV
- [1] 242830
- >

NPV on Project D

Months	CASH INFLOWS	PV FACTORS @10%	PRESENT VALUE OF CASH INFLOW
1	200000	0.909	181800
2	275000	0.826	227150
3	300000	0.751	225300
4	325000	0.683	222075
Total present value of cash inflow			856225

Net Present Value of Cash outflows = 400000

Net Present Value = 856225 – 400000

Net Present Value = 456225

R Programming on Project D

```
> library(FinCal)
> initialinvestment<-400000
> cashflows<-c(200000,275000,300000,325000)
> cf<-c(-initialinvestment,cashflows)
> t=0.1
> NPV=npv(t,cf)
> NPV
[1] 456225
>
```

NPV on Project E

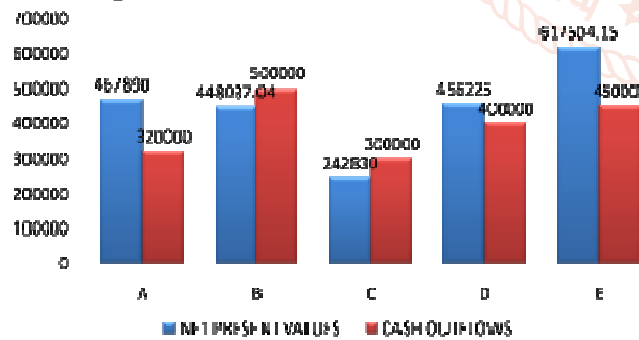
Months	CASH INFLOWS	DISCOUNT FACTOR	PRESENT VALUE OF CASH INFLOWS
1	275000	0.909	249975
2	325000	0.826	268453
3	420000	0.751	315423
4	488520	0.683	333659.16
Total present value of cash inflow			1167504.16

Net Present Value of Cash outflow =450000
 Net Present Value = 1167504.15 – 450000
 Net Present Value = 717504.15

R Programming on Project E

```
> library(FinCal)
> initialinvestment<-450000
> cashflows<-c(275000,325000,420000,488520)
> cf<-c(-initialinvestment,cashflows)
> t=0.1
> NPV=npv(t,cf)
> NPV
[1] 712504.15
>
```

Bar Graph on NPV values



PROFITABILITY INDEX

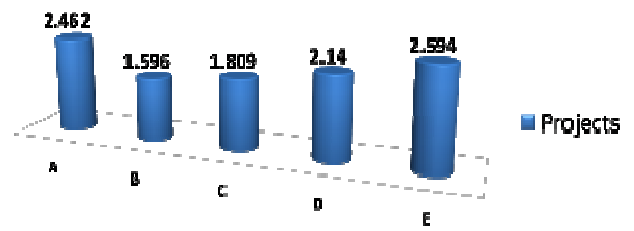
$$\text{Profitability index} = \frac{\text{PV of cash inflows}}{\text{Initial investment or cash outflows}}$$

Projects	Present value of cash inflow	Present value of cash out flow	Profitability Index
A	787890	320000	2.462
B	948037.04	500000	1.896
C	542830	300000	1.809
D	456225	400000	1.14
E	1167504.16	450000	2.594

$$\text{Project E Profitability index} = \frac{1167504.16}{450000}$$

Profitability index = 2.594

Bar Graph on Profitability Index



Interpretation:-

As per the above calculations the profitability index in projects which is greater than 1 to compare with other projects and their profitability index is higher than 2 i.e E 2.594, so the project E is accepted.

Hypothesis;

Ho; There is no significant difference between present value of cash inflows of different projects.

H1; There is a significant difference between present value of different projects.

T-Test

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Present_value_of_cash_inflows	5	860597.2400	2281008.3982	102056.8894

One-Sample Test					
	t	df	Sig. (2-tailed)	Mean Difference Lower Upper	
Present_value_of_cash_inflows	9.435	4	.000	860497.2400	577273.2901 1143721.192

INTERPRETATION:

Compare the tcal Value with ttab value at 4 d.f. ttab at 4 d.f.= 2.776. Here, tcal > ttab therefore we reject H0. Therefore there is a significance difference in the cash flows in the projects.

Hypothesis;

Ho; There is no significant difference between NPV of different projects.

H1; There is a significant difference between NPV of different projects.

T-Test

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
NPV_Present_value	5	465497.2360	1085753.5985	74494.95443

One-Sample Test					
	t	df	Sig. (2-tailed)	Mean Difference Lower Upper	
NPV_Present_value	6.249	4	.000	465497.2360	289060.3621 641934.1099

Interpretation:

Compare the tcal Value with ttab value at 4 d.f. ttab at 4 d.f.= 2.2776 Here, tcal > ttab therefore we reject H0. Therefore there is a significance difference in the projects in N.P. V.

Hypothesis;

Ho; There is no significant difference between Profitability index of different projects.

H1; There is a significant difference between Profitability index of different projects.

★ T-Test

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
profitability_index	5	2.1200	.42200	.18888

One-Sample Test						
	t	df	Sign. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
				Lower	Upper	
profitability_index	11.227	4	.000	2.12000	1.65498	2.64446

Interpretation;

Compare the tcal Value with ttab value at 4 d.f. t tab at 4 d.f.= 2.2776 Here, tcal > ttab therefore we reject H0. Therefore there is a significance difference in the projects in P.I.

Findings;-

- In decision rule of NPV we accept the project which shows the positive values. But here we are comparing different projects like A,B,C,D and E. so while making analysis of different projects based on NPV method we accept the project which shows the high value.
- Project E shows the high NPV value it is 712504.15.
- As compare with other projects A and D also shows positive values. which is in 467890 and 456225.
- As NPV considers only returns of the project but not risk. So the company calculates based on the profitability index method as it considers both risk and return. When its P.I is greater than two. If PI is less than two it should be rejected. Profitability index of the First project is 2.462 and the fourth project is 2.14 and the fifth project is 2.594 this is greater than two. So, the projects are accepted.
- Among the five projects we select the most profitable projects of three. We ignore the two less revenue projects.

- The calculated value of t is 8.435 and the table value is 2.776 at 4 d.f.
- The calculated value of t is 6.249 and the table value is 2.776 at 4 d.f.
- The calculated value of t is 11.227 and the table value is 2.776 at d.f.

Suggestions;-

- Project B, being an Indian small start-up company, this project doesn't give much profits but in order to encourage small start-ups, the company should accept such Indian small projects even though the profits are less.
- Organization can follow some other Modern techniques for making better decisions on identifying the suitable projects of the company.
- The future of investment is always uncertain so the company should maintain continuous monitoring on currency fluctuations for minimizing the risk and maximizing the investments

Conclusion;-

From the study it was observed by making the analysis of investment decisions on various clients projects of chakravuyha. The First fourth and fifth projects investments are suitable and profitable to the company by using NPV and the Profitability index and their investments returns are getting back within the excepted period. So the Organization can accept and invest more in this projects.

Reference;-

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