TO STUDY ON BUDGETARY CONTROL MANAGEMENT WITH REFERENCE TO ALLOYSYS EXTRUSION [P] LTD

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***ABSTRACT**: This work will analyze the effectiveness of budgetary control in managing organizations. Budgetary control is very vital for the process of planning, cost control, and decision making. The main aim of this research is to analyze the benefits that come from budgetary control measures. The research is based on the secondary data that is derived from various sources including the financial statements of the organization and other documents. The research uses various analytical methods including variance analysis, trend analysis and capital budgeting tools like NPV, payback period and rate of return. The results show that budgetary control helps in resource allocation, cost reduction and performance evaluation. Some of the limitations in using this approach include its rigidity and forecasting problems. It can be seen that budgetary control is an important part of managing organizations.*

1. INTRODUCTION: Budgetary control is an essential tool in financial management used for planning and controlling activities of business enterprises. It entails preparation of budgets, comparison between budgeted values and actual results, and making any corrections that might be required.In the current competitive world of business, the need to use resources efficiently cannot be overemphasized. Through budgetary control, businesses can make forecasts of their future financial requirements.

The study seeks to examine budgetary control within the context of a firm called Alloysys Extrusion (P) Ltd. The organization is involved in the production of aluminium extrusions.

Objectives of the Study

- To comprehend the meaning of budgetary control.
- To assess its importance in financial planning.
- To determine its significance in Alloysys Extrusion.
- To point out the benefits and limitations.

2. LITERATURE REVIEW: There have been many researchers and experts who have done much work on the topic of budgetary control. According to John Blocker, budgetary control can be described as a method which enables the management to plan and control their activities through setting standards and evaluating performance against the set targets. Blocker emphasizes that budgetary control is very important in evaluating the performance of people and responsibility accounting. As per Welsch (1976), there is an integration of planning and control processes in the activity of budgeting. The study conducted by him emphasized those proper budgeting results in improved coordination among different departments within the organization. As per Horngren (2002), budgetary control becomes very important for cost control and decision making purposes. He says that through variance analysis, the managers get the deviations and thus can take appropriate action at the right time. As per Drury (2004), budgetary control leads to improvement in the efficiency of the operations of the organization due to the setting of performance benchmarks. Participation of the employees in budgeting improves the motivation level of the employees. It was brought

out by Shim and Siegel that budgetary control enhances financial planning and aids in the effective management of cash flows. It was noted by them that forecasting techniques play an important role in formulating practical budgets. Through this review of literature, it can be observed that budgetary control is a very effective method of planning, coordination, and control. Some of the drawbacks identified from the earlier studies include the inflexibility of budgets, reliance on forecasts, and reluctance of the workforce.

Research Gap:

In the earlier studies, more attention had been paid towards the theory aspect of budgetary control, whereas only little attention had been paid regarding its practical implementation in medium-sized manufacturing firms such as Alloysys Extrusion (P) Ltd. Thus, this research aims at examining the practicality of budgetary control.

3.RESEARCH METHODOLODY: Research methodology implies a scientific approach used by researchers for collecting, analyzing, and interpreting data to ensure that the set research objectives are met. In this case, the research methodology will be used for assessing the efficiency of the budgetary control of Alloysys Extrusion (P) Ltd by using proper research techniques.

Research Design:

- Descriptive Research Design is employed for describing budgeting approaches
- Analytical Research Design is employed for evaluating the financial performance of the firm
- Will help in analyzing budgetary control

Sources of Data:

Secondary Data forms the main source of data collection

Sources include:

- Company's annual reports
- Financial statements (balance sheet & income statement)
- Data obtained from company records
- Books, Journals, Websites etc.

Sampling Technique:

- Convenience sampling method is used.
- Availability of the data and accessibility of data are considered.
- Collection of relevant financial data of the company.

Tools and Techniques:

- Variance analysis - Comparison between actual and budgetary performance
- Trend analysis - Study financial performance over a period of years
- Techniques used in capital budgeting are:
- Net present value (NPV)
- Pay back period approach
- Return on investment

Data Analysis Approach:

Analysis of data through use of:

- Tables & Charts
- Comparison
- Interpretation of the financial performance of the company

4. DATA ANALYSIS AND INTERPRETATION

Payback Period Analysis

Year	Initial investments	Annual cash Inflow	Payback period
2020	8,01,01,25,000	1,96,98,53,000	4.1
2021	8,51,22,22,000	3,02,48,93,000	2.8
2022	8,99,06,67,000	1,86,65,73,000	0.5
2023	10,55,06,67,000	1,46,77,18,000	7.2
2024	11,82,32,60,000	4,42,07,50,000	2.7

INTERPRETATION:

As can be seen from the above chart, the payback period varies depending on the investment in particular years. X-axis refers to first five years from 2020 to 2024. Y-axis refers to time period. In first year 2020 the payback period is 4.1, and the payback period for the fifth year 2024 is 2.7; whereas compared to other payback periods the payback period for the year 2022 is lower.

Net Present Value Analysis

Year	Cash outflows	Discounting present value Table (Present value of Re.1 @ 10 %)	Present Value of Net Cash Flows	Present value of Initial investment
2020	1,96,98,53,000	0.909	1,79,05,96,000	7,28,12,04,000
2021	3,02,48,93,000	0.826	2,49,85,62,000	7,03,10,95,000
2022	1,86,65,73,000	0.751	1,40,17,96,000	6,75,19,91,000
2023	1,46,77,18,000	0.683	1,00,24,51,000	7,20,61,06,000
2024	4,42,07,50,000	0.621	27,45,29,000	7,34,22,44,000

		TOTAL =	**6,96,79,34,000**	**3,56,12,64,000**

Calculation:

Present value of all cash flows 6,96,79,34,000

Less: Present value of all Initial Investment 3,56,12,64,000

Net Present Value (2020-12) **3,40,66,70,000**

INTERPRETATION:

If the net present value of an investment project is positive, then it would be accepted and rejected if it is negative because of the acceptance rule based on the Net Present Value method. Positive NPV would add to the net worth of the shareholders and it would lead to an increase in the price of the firm's stock. Positive NPV would occur only if the project earns cash flows at a higher rate than the opportunity cost of capital.

- Accept the project when NPV > 0
- Reject the project when NPV < 0
- Can either accept or reject the project if NPV = 0

The above table clearly depicts that the Net Present Value from 2020 to 2024 is Rs. 3,40,66,70,000.

Average Rate of Return Analysis

Year	Annual profit	Investment	Rate of Return %
2020	1,96,98,53,000	8,01,01,25,000	**24.59%**
2021	3,02,48,93,000	8,51,22,22,000	**35.55%**
2022	1,86,65,73,000	8,99,06,67,000	**20.76%**
2023	1,46,77,18,000	10,55,06,67,000	**13.91%**
2024	4,42,07,50,000	11,82,32,60,000	**37.39%**

Calculation:

$$\text{Average Rate of Return} = \frac{\text{Average Income}}{\text{Average Investment}} = \frac{2,54,99,57,400}{9,57,73,88,200} = 26.62\%$$

INTERPRETATION:

As shown above in the chart that in the year 2023 and in the year 2022 the company had expected rate of returns that was below the minimum rate; therefore, investment can be decreased. On the other hand, the project had greater rate of return in comparison to the minimum rate in the years 2021 and 2024. It can be said that higher rate of return means higher cash inflows in the future.

TREND ANALYSIS

YEAR	INVESTMENTS (Y)	X	XY	X^2	Y = a + b x (IN CRORES)
2020	8,01,01,25,000	**-2**	**-** 16,02,02,50,000	**4**	7,25,39,31,200
2021	8,51,22,22,000	**-1**	- 8,51,22,22,000	**1**	8,41,56,59,700
2022	8,99,06,67,000	**0**	**0**	**0**	9,57,73,88,200
2023	10,55,06,67,000	**1**	10,55,06,67,000	**1**	10,73,91,16,700
2024	11,82,32,60,000	**2**	2,36,45,20,000	**4**	11,90,08,45,200
	∑Y= 47,88,69,41,000	**∑X= 0**	**∑XY= - 11,61,72,85,000**	**∑X^2= 10**	

$Y = a + bX$ Where $a = \frac{\sum Y}{n}$; $b = \frac{\sum XY}{\sum X}$

b = 1,16,17,28,500

a = 9,57,73,88,200

INFERENCE:

From the above table, the trend of the investment made by the company is analyzed. From the above table, it is clear that the trend of the investment by the company has been increasing during the last 5 years.

FIXED ASSET:

YEAR	FIXED ASSET (Y)	X	XY	X^2	Y = a + b x
2020	5,85,76,89,000	**-2**	**-11,71,53,78,000**	**4**	**5,67,90,18,200**
2021	5,96,72,33,000	**-1**	**-5,96,72,33,000**	**1**	**6,09,46,46,300**
2022	6,42,05,14,000	**0**	**0**	**0**	**6,51,02,74,400**
2023	6,77,29,80,000	**1**	**6,77,29,80,000**	**1**	**6,92,59,02,500**
2024	7,53,29,56,000	**2**	**15,06,59,12,000**	**4**	**7,34,15,30,600**
	∑Y = 32,55,13,72,000	**∑X= 0**	**∑XY= 4,15,62,81,000**	**$\sum X^2$=10**	

$$Y = a + bX \quad \text{Where} \quad a = \frac{\sum Y}{n} \quad ; \quad b = \frac{\sum XY}{\sum X^2}$$

a= 6,51,02,74,400

b= 41, 56, 28,100

INFERENCE:

From the table above, it is clear that trend analysis has been carried out in regard to the fixed assets held by the firm. From the table above, it is clear that the company has acquired many fixed assets, hence expanding the business. It can be inferred that acquiring new fixed assets is good for the firm.

CURRENT ASSETS:

YEAR	CURRENT ASSETS	X	XY	X^2	Y = a + b x
2020	20,56,75,97,000	-2	-41,13,51,94,000	4	**1,70,53,22,74,000**
2021	24,05,65,51,000	-1	-24,05,65,51,000	1	**2,13,37,16,70,900**
2022	27,92,77,79,000	0	0	0	**2,15,62,63,76,000**
2023	30,08,55,26,000	1	30,08,55,26,000	1	**2,17,88,10,81,100**
2024	28,82,66,35,000	2	57,65,32,70,000	2	**2,20,13,57,86,200**
	∑Y=1,07,81,31,88,000	**∑X = 0**	**∑XY= 22,54,70,51,000**	**$\sum X^2$=10**	

$Y = a + bX$ Where $a = \frac{\sum Y}{n}$; $b = \frac{\sum XY}{\sum X^2}$

a= 2,15,62,63,76,000

b= 2,25,47,05,100

INFERENCE:

From the above graph, it is seen that the company has an increasing trend of its current assets for the last 5 years and also in future growth prospects.

LINEAR REGRESSION:

REGRESSION DEFINITION:

Regression is a form of statistical investigation that examines the relationship between two variables. It is used to determine the relationship between two variables.

Regression Formula:

Regression Equation(y) = a + bx

Slope(b) = $(N\Sigma XY - (\Sigma X)(\Sigma Y)) / (N\Sigma X^2 - (\Sigma X)^2)$

Intercept(a) = $(\Sigma Y - b(\Sigma X)) / N$

where

x and y are the variables.

b = The slope of the regression line

a = The intercept point of the regression line and the y axis.

N = Number of values or elements

X = First Score

Y = Second Score

ΣXY = Sum of the product of first and Second Scores

ΣX = Sum of First Scores

ΣY = Sum of Second Scores

ΣX^2 = Sum of square First Scores

TO FIND THE RELATIONSHIP BETWEEN THE INITIAL INVESTMENT AND PAY BACK PERIOD

INITIAL INVESTMENT (X)	PAY BACK PERIOD(Y)
8,01,01,25,000	4.1
8,51,22,22,000	2.8
8,99,06,67,000	0.5
10,55,06,67,000	7.2
11,82,32,60,000	2.7

To determine the regression equation, we will first calculate slope, intercept and use them to establish the regression equation.

Step 1: Calculate the number of values.

N = 5

Step 2: Find XY, X2

See the following table

X	Y	X*Y	X*X
8,01,01,25,000	4.1	32,84,15,12,500	6,41,62,10,25,200
8,51,22,22,000	2.8	23,83,42,21,600	7,24,57,92,33,800
8,99,06,67,000	0.5	4, 49,53,33,500	8,08,32,09,31,000
10,55,06,67,000	7.2	75,96,48,02,400	11,13,16,57,41,000
11,82,32,60,000	2.7	3,19,22,80,200	13,97,89,47,70,000
∑X=47,88,69,41,000	**∑Y= 17.3**	**∑XY=1,40,32,81,50,200**	**∑X2= 46,85,58,17,01,000**

Step 3: Find ΣX, ΣY, ΣXY, ΣX^2.

ΣX = 47,88,69,41,000 or 47.89

ΣY = 17.3

ΣXY = 1,40,32,81,50,200 or 1.40

ΣX^2 = 46,85,58,17,01,000 or 46.86

Step 4: Substitute in the above slope formula given.

Slope(b) = $(N\Sigma XY - (\Sigma X)(\Sigma Y)) / (N\Sigma X^2 - (\Sigma X)^2)$

= ((5)*(1.40)-(47.89)*(17.3))/((5)*(46.86) - (47.89))

= (-40.89)/ 186.41

= -0.219

Step 5: Once again, put in the above intercept formula.

Intercept(a) = $(\Sigma Y - b(\Sigma X)) / N$

= (17.3- 0.219 (47.89))/5

= (818.009)/5

= 163.6

Step 6: Then putting the above values in regression equation formula we get.

Regression Equation(y) = a + bx

= 163.6 - 0.219x

Inference:

The regression equation obtained from above calculations is 163.6- 0.219x.

TIME SERIES ANALYSIS

TO FIND THE THREE YEAR MOVING AVERAGE TO DETERMINE THE TREND AND SHORT TERM FLUCTUATUIONS

Year	Annual profit
2020	1,96,98,53,000
2021	3,02,48,93,000
2022	1,86,65,73,000
2023	1,46,77,18,000
2024	4,42,07,50,000

SOLUTION:

Year	Annual profit (IN CRORES)	Three year moving total	Three year moving average	Short – term fluctuations
2020	1.97	-----	----	---
2021	3.02	**6.86**	**2.29**	**0.73**
2022	1.87	**6.36**	**2.12**	**-0.25**
2023	1.47	**7.76**	**2.59**	**-1.12**
2024	4.42	----	----	----

INFERENCE:

The above results indicate the short-term fluctuations in the annual profit. The trend in the annual profit indicates a negative trend and negative fluctuations in the years 2022 and 2023.

APPENDIX

BALANCE SHEET CONTAINING LAST 5 YEAR'S FINANCIAL STATEMENT OF ALLOYSYS EXTRUSION [P] LTD (RS. IN CRORES)

Particulars	2020	2021	2022	2023	2024
Share Capital – Equity	42.28	44.39	44.39	44.39	44.39
Share Capital – Preference	40.00	40.00	40.00	40.00	40.00
Reserves and Surplus	150.30	283.06	291.78	406.85	579.99
Deferred tax liability	23.75	17.44	24.71	18.18	4.75
Loans	167.92	147.01	257.89	175.41	72.79
SOURCES OF FUNDS – Total	**424.25**	**531.90**	**658.77**	**684.83**	**741.93**
Fixed assets	58.58	59.67	64.20	67.73	75.33
Capital work in progress	225.44	274.01	365.08	345.30	444.43
Investments	80.10	85.12	89.91	105.51	118.23

Current Assets:					
Inventories	33.3	32.24	31.75	58.82	24.88
Debtors	90.12	92.06	96.45	106.22	93.61
Cash and bank balances	38.29	50.73	51.91	54.69	86.72
Loans and Advances	43.96	65.54	99.17	81.13	83.06
Total Current Assets	**205.67**	**240.57**	**279.28**	**300.86**	**288.27**
Less: Current Liabilities & Provisions	159.86	192.26	179.70	134.57	184.33
Net Current Assets	**45.81**	**48.31**	**99.58**	**166.29**	**103.94**
Deferred revenue expenditure	14.31	64.21	40.00	-	-
APPLICATIONS OF FUNDS – Total	**424.25**	**531.90**	**658.77**	**684.83**	**741.93**

LAST 5 YEARS PROFIT & LOSS ACCOUNT ALLOYSYS EXTRUSION [P] LTD (RS. IN CRORES)

Particulars	**2020**	**2021**	**2022**	**2023**	**2024**
Sales volume (no's in lakhs)					
Sales Income(Profit)	53,497	62,809	67,149.38	70,395	76500
Expenditure	34808.32	40085.5	45551.26	53907	32064
Interest	24.84	20.42	20.14	29.43	25.42
Depreciation / Amortization	19.66	25.59	29.73	41.76	60.08
Operating Profit	**19.70**	**30.25**	**18.66**	**14.68**	**44.21**
Add: Other Income	2.43	3.22	1.77	5.26	11.86
Less: Exceptional Item	(25.00)	(24.00)	-	-	-
Profit Before Taxes	86.88	131.65	202.30	230.56	321.32
Taxes	13.26	37.52	52.04	71.59	70.99
Profit After Taxes	73.62	94.13	150.27	158.96	250.32
Equity Dividend (%)	30%	50%	80%	100%	150%

Equity Dividend (Rs.)	13.32	22.19	35.51	44.39	66.58
Employee costs (excluding VRS)	109.13	157.04	189.16	233.40	274.49
% to Sales Income	7.4%	7.4%	6.2%	6.1%	5.8%
Advertising	101.31	133.82	151.55	181.36	211.15
% to Sales Income	6.8%	6.3%	5.0%	4.7%	4.5%

FINDINGS:

- The analysis conducted for the last five years i.e., from 2020 to 2024 shows that payback period in 2022 is small. It means that investments made during this period could be recovered quickly. However, the payback period for 2023 was largest in amount to 7.2 years.
- The Net Present Value of investment for five years from 2020 to 2024 comes to 3,40,66,70,000. It shows that the strategy used by the company is quite satisfactory; thus, similar projects can be launched.
- Higher rate of return means that cash inflow for each year is high. Therefore, 2023 would be considered the most favorable time for the company to implement a project. The return on the project was positive.
- The average rate of return is gradually increasing with time except in the year 2022. In this year, it started growing and reached its peak point.
- The trend analysis performed for the purpose of calculating investment showed that the investment in the current year (2024) is higher than the one of the previous year (2023): 11,90,08,45,200 vs. 10,73,91,16,700.
- The trend analysis for calculating fixed assets for the current year (2024) is also larger than the one of the previous year (2023): 7,34,15,30,600 vs. 6,92,59,02,500
- For the computation of the trend analysis of the current assets, there is an increment in the current year (2024), which is 2,20,13,57,86,200, as against the previous year (2023), where it is 2,17,88,10,81,100.
- The position of the company in the year 2024 in respect of the income variance is favourable; it has improved the unfavourable position to achieve a constant return.
- The company's position in relation to the profit variance in the year 2024 is unfavourable; however, the company is still in a favourable position.
- The trend of the annual profit for the years 2022 and 2023 indicates negative trends and fluctuations.

SUGGESTIONS:

The following are some suggestions that can be used by the company to convert their shortcomings into strengths.

• It is observed that the payback period in the year 2023 is low. Therefore, the company can make an effort to invest more percentage of funds into the particular project which gives high returns in the year 2023.

• The company can minimize the cost of production.

• The company can forecast and analyze the rate of return on investment which avoids any possible loss.

• The management needs to focus on various budgeting techniques to avoid losses and late recovery of the initial investment.

• The management should be efficient in capital budgeting.

• Past performance analysis of the company should be performed regularly to know about their errors and successes.

• Investment decisions must be given priority since they have a long-term impact on the firm's future.

• All the cash flows need to be considered while making investment decisions to evaluate the true profit of the project.

• Income variance analysis is necessary despite being in favorable positions, the company is incurring more expenses. Proper measures must be taken to control the expenses.

CONCLUSION:

As a result of the present research it can be clearly stated that one of the main issues of budgeting is the estimation of value of capital investment proposals through estimation of cash flows. Moreover, variance analysis and trend analysis are widely used to make proper estimations. It is obvious from the study that nowadays effective capital allocation is the key function for financing process. Therefore, capital budgeting or investment decisions play an important role because they have an impact on business growth, profits, and risks. As a result, the conclusion made according to analysis of payback period and average rate of returns is that managers should try to conduct a budget in efficient way. Variance is defined as the difference between expected results and actual results. This procedure when the whole difference between these results is analyzed is called variance analysis. So it can be said that it was beneficial for the company.