A STUDY OF COST EFFECTIVENESS AND IMPACT ON PROFITABILITY AT BHARAT EARTH MOVERS LTD (BEML)

Sogara BI**
Assistant Professor, Department of Commerce, Krupanidhi Degree College, Bangalore
Dr. Anusha B
Assistant Professor, Department of Commerce, Krupanidhi Degree College, Bangalore

Abstract

Finance is the lifeline of any enterprise. Finance is the technological know-how that depicts the management, credit score, investments, expenses, assets and liabilities. It is needed to establish an enterprise, to run it to modernize it to increase or diversify it. It's miles required for getting a spread of belongings, which can be tangible like machinery, furnishings, factories, homes, places of work or intangible including emblems, patents, technical expertise and many others. also, finance is imperative to run a day after day operations of enterprise like shopping for substances, paying payments, salaries, collecting coins from clients etc. wished at every stage in the life of a business entity. Availability of adequate finance is very vital for survival and growth of an enterprise.

The paper concentrates on finding out the cost incurred and its effectives at BEML. As the company meets various direct and indirect cost to run a day after day operations of enterprise like shopping for substances, paying payments, salaries, collecting coins from clients etc. wished at every stage in the life of a business entity. Availability of adequate finance is very vital for survival and growth of an enterprise. The purpose of the study is to find out the profitability of BEML by using various tools like ratio analysis, CVP, BES, Margin of safety, Contribution margin, Profit volume ratio, Job Costing, The study concludes that the application of cost- volume profit analysis and job-costing techniques in decision-making process to a very large extent enhance cost efficiency of BEML. The company is increasing day-to-day activities to meet the challenges within the market. From the analysis of cost reduction strategies and techniques at BEML ltd, it is obvious that the price reduction strategies and techniques is satisfactory.

Keywords: *Cost efficiency, financial performance, Ratios, CVP, BEP, Margin of safety, Job costing.*

Introduction

Cost effectiveness analysis helps an organization to understand how to utilize its cost effectively and which help to progress in present practices as well as for better companies' future. There are four important areas to the organisation overall cost effectiveness strategies:

1. Strategic cost management
2. Materials management techniques
3. Labor infrastructure
4. Process automation

Cost- effectiveness evaluation (CEA) is a form of economic evaluation that compares the relative fees and results of various guides of action. Price- effectiveness analysis is powerful from value- gain analysis, which assigns a financial price to the measure of effect. Price- effectiveness is one of the sound arguments to be made for the case of industrial robots. Robots will lessen manufacturing costs through casting off

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inner fees to compensate human salaries. Companies are forecasting that their profitability will boom when they put in force robots into production, or they will have extra economic mobility to invest in new merchandise or technologies. The important thing energy of CEA is that it avoids valuation of economic benefits, improving applicability in which valuation is hard (e.g. environment). The technique is also quite easy for the company to apply, and the communication of effects is concise and easy to recognize – helped by using the great use of CEA in mitigation. Price effectiveness is a manner in which a selected value reacts to changes within the activity tiers. Price can also stay the identical or may additionally alternate in accordance to a trade in the interest.

CVP evaluation allows a company in determining the level at which all relevant fee is recovered and there may be no profit or loss, which is likewise called the breakeven factor. The strategies used are profit/ volume ratio, contribution margin concept, Break even analysis and margin of safety.

Literature Review

Okunbor (2013) defines the time period 'cost' as a monetary useful resource that has a cost. Cost must have the ability generate the earnings. Price can also be standard as the whole expenses of the enterprise that must be paid to make the production or offer the utility offerings to the clients. Cost effective is a way the costs reply to changes in volume or interest. He also says that cost effectiveness is also related to gaining knowledge of how prices trade whilst there is an exchange within the agency's activity level. It's far crucial to understand the cost effectiveness to make proper selection when making plans and coping with the expenses.T he finding indicates that there is an insignificant relationship between cost efficiency with the financial performance, whatever three above financial performance variables (Shieh, 2012).

Assessment of the expenses and their evaluation are several. Financial accounting makes use of a method of price classifications in the financial statements. Such classifications types out the natural sorts of charges by using the form of the input applied. For that reason such classifications primarily based at the economic statements is not always sufficient now todays. More over a few of the companies are not inclined to change their old costing systems and techniques (Hansen, 2009).

A conventional version of cost effectiveness and behaviour separates the charges into constant and variable additives. Greater over in education it is not so easy to segregate. As Anderson said, no cost is neither completely fixed nor completely variable. However Anderson 2009 says later it could be changed in proportion with adjustments that occur in performance quantity, but constant expenses stay unchanged because the quantity modifications with a applicable output or effects.

Banker and Byzalov (2014) said that knowledge of price effectiveness is a key component in cost accounting. The value effectiveness is deeply investigated that with greater unsure demand, surprisingly excessive realizations of call for come to be much more likely. They strongly helps that company going through better call for, uncertainty have an extra inflexible on short-run cost shape with better constant and lower- variable costs.

The author states that the principle division of costs and titles them as direct and indirect costs. The direct costs in most cases contains of direct materials and labour, representing that it could be easily and, as it should be recognized with a specific fee item. Consequently oblique fees can't be decided with a selected

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fee object. Indeed, they can be approximately variable expenses, in addition to completely constant, semi-variable and semi- constant ones defined (Drury, 2012).

Lanen (2009) defines adjustments in sales does now not express volume; this is because sales are not simplest dependent on manufacturing extent, however also the expenses this is set via the control. The classifying fee is concern to managerial choice and that selling, standard and administrative rice represents the entire fee. Consequently, this creates the measurement problem of cost effectiveness.

Cost effectiveness has an impact on the decision-making process of all the organizations, where the profitability solely depends on the minimization of the cost. Profit depicts the financial position of the company. Cost effectiveness and impact on profitability may remain the same or may change in accordance to a change in the activity. This study is concerned about understanding the relationship between cost effectiveness and profitability of the organization through the various effective cost measures adopted by the organization.

The main objectives are:

- To recognize the aspects of cost effectiveness in BEML ltd.
- To ascertain the profitability in BEML Ltd.
- To know the total cost and sales.
- To use various tools to understand the financial stability in BEML Ltd.

Research Methodology helps us to understand the methods used to undertake research. It plays an important role in theoretical evaluation of the strategies used to carry out the study. There are various techniques used to acquire facts and statistics to create business core decisions. The methodology includes interviews, survey and other studies strategies and could consist of present and historical information. Research approach is a systematic plan for undertaking studies.

It is a descriptive study and analytical in nature. Descriptive research covers surveys, fact, findings and enquiries of different kinds. The important purpose of descriptive research is to know the current and future state of affairs.

Secondary data is collected from the company website, annual report of the financial statements for 4 years cost sheet. Various journals, magazines, related to the company theoretical information from relevant textbooks is served as secondary data. The data collected from company is complied, classified, tabulated and then analyzed using financial techniques and statistical tools, such as mean and percentage. Graphs and charts are used to highlight the statistics. Based on these data and analysis, inferences were drawn.

Research Instruments

1. **Job order costing**
   Cost of job= Factory cost+ selling and distribution overheads
2. **Cost volume profit analysis (CVP)**
   Profit volume ratio:

   Contribution

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= ______________

Sales

- Contribution margin= Sales- Variable cost

Fixed cost

- BEP= ______________

Profit Volume Ratio

- MOS= Sales-Break even sales

Analysis and Interpretation of Data

Table 1: Showing Breakeven point

Year	Break even sales (in lakhs)
2014 – 15	1691.04
2015 – 16	2614.04
2016 – 17	3093.38
2017 – 18	4083.31

There is a constant increase in Breakeven point from 1691.04 to 4083.31 and variable cost is rising too which in turn increases the sales volume rapidly and generate huge profits for the company. The increase in BEP may be due to expenses met by the company for meeting their fixed expenses such as rent, depreciation, salaries of managers and executives, etc. Thus it can be interpreted that Break-even analysis shows the inter relationship between cost, volume and profit. Thus it indicates that the profit at various levels of activity and helps in understanding the behaviour of profit in relation to output and sales

Table 2: Showing margin of safety

Year	Margin of safety (%)
2014 – 15	89.15%

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2015 – 16	92.45%
2016 – 17	92.31%
2017 – 18	93.42%

The above table indicates that the margin of safety represents excess of actual or estimated sales over the breakeven sales. Since it is assumed that, the volume of output coincides with the volume of sales. There is a constant increase in the margin of safety year by year up to 93.42%. The sales level has increased which further increases the level of profit. Therefore, indicates the ability of the company to continue its activities, without incurring loss, even in case of fall in its sales. It is an indicator of the stability position of the company. Therefore, a company with high margin of safety is usually able to earn more profit than other companies with small margins of safety.

Table 3: Showing the contribution margin

Year	Contribution margin (in lakhs)
2014-15	12360.43
2015-16	27911.12
2016-17	32098.92
2017-18	47434.73

It can be inferred that contribution margin has increased from the year 2014-15 to 2017-18 by 47434.73 which indicates that the company can easily cover the expenses met while manufacturing the product and it helps in making sound decisions.

Table 4: Showing profit volume ratio

Year	PV ratio

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2014 – 15	79.25%
2015 – 16	80.58%
2016 – 17	79.69%
2017 – 18	76.40%

Most of the company uses profit/volume ratio for studying the profitability of the business. It helps to establish a connection between contribution and sales. It can be inferred that there are fluctuation in this ratio. There is an increase in the year 2016– 17 to 79.69% and decreased in the year 2017 – 18 to 76.40% and again it increased to 79.25% in 2014 – 15. Thus, p/v ratio is beneficial for the determination of the breakeven point and stage of output or income to earn a favoured amount of income. This ratio also can be used for the calculation of variable costs and income for any extent of sales. Better the profit volume ratio, greater might be the earnings and lower the profit volume ratio, lesser could be the income. Hence, it should be the goal of every concern to increase or improve the p/v ratio.

Table 5: Showing job costing

Year	Cost of the job	Profit	Selling price
2014 -15	12458.7	3137.91	15596.61
2015 – 16	32275.62	2359.41	34635.03
2016 – 17	35270.21	5007.82	40278.03
2017 – 18	47105.04	14982.26	62087.30

The Cost of the job is increasing year-by-year up to 47105.04. The overhead is increases constantly and sales is increasing thus the profit is also higher year by year. Job costing indicates the specified accumulation of production expenses because of specific units or group of units. Job order costing information, the actual substances and labour costs for specific jobs and assigns overhead to jobs at a

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predetermined charge. Job order costing shall is used to calculate the profit earned on individual jobs or tasks. Every activity (or product) is separate and awesome from the other jobs or merchandise. The technique is popular in corporations engaged in residence – building, ship – building, equipment manufacturing and repair.

Table 6: Showing the comparison of profit for CVP analysis and job costing

Year	CVP analysis(profit)	Job costing(profit)
2014 – 15	11020.28	3137.91
2015 – 16	25804.72	2359.41
2016 – 17	29633.8	5007.82
2017 – 18	44315.08	14982.26

The above graph it is clearly evident that the CVP analysis shows the increase in the profit from 2014-15 upto 2017-18 by 44315.08 this in turn increases variable cost is also increasing and has a higher profit whereas the job order costing also shows the increase in the profit year by year up to 14982.26, where the overhead are increasing which also leads to higher profit as followed by the BEML LTD. The company can also follow the CVP analysis where it also results in same amount of profit as compared to job order costing.

Table 7: Table Showing the total cost and Total sales

Year	Total cost (in lakhs)	Sales(in lakhs)
2014-15	14875.79	15596.61
2015-16	33815.87	34635.03
2016-17	39185.88	40278.03
2017-18	51156.78	62087.30

The total cost for the last 4 years of BEML ltd. Here it is increasing in the metro cab total cost for the last 4 years. It has better improvement in the cost. In the year 2014-15 cost are Rs.14875.79 and in the year 2015-16 cost has increased to Rs.33815.87 in the next year 2016-17 cost have slightly increased to Rs.39185.88 and in the last year 2017-18 cost have drastically increased to Rs.51156.78 and the sales consumed for the last 4 years of BEML ltd. Here it is increasing in the metro cab sales for the last 4 years.

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It has better improvement in the sales. In the year 2014-15 sales are Rs.15596.61 in the year 2015-16 sales has increased to Rs.34635.03 in the year 2016-17 sales have slightly increased to Rs.40278.03 and in the last year 2017-18 sales have drastically increased to Rs.62087.3. it indicates the company the company has effectively utilised cost and generating good profits.

Discussion

The financial statement indicates that the net sales has increased from15596.61 up to 62087.30 respectively which means the company's products has huge demand in the market. It is also found that the net income as increased from11020.28 up to 44315.08 respectively. The break-even sales for the years 2014-15,2015-16,2016-17 and 2017-18 is increased from 1691.04 up to 4083.31 respectively.

It is found that the contribution margin is increased from 12360.43 up to 47434.73 respectively. Contribution margin of the company aids to segregate fixed cost and profit components coming from sale of products. It also helps in finding the selling price range of each product manufactured by the company. It is a core ratio for every company in decision making and for future benefits.

The company conducts under the three main Business verticals - Mining & Construction, Defense and Rail & Metro. These are led by a director, who also act as a CEO of business and is directly answerable to the Chairman and MD of the company. Trading Division deals in non-company products.

The profit volume ratio is increased from 76.40% up to 80.58%, This indicates that company is manufacturing more number of units due to increase in demand for their products which in turn increases the profits rapidly. Increase in profits helps the company to meet its working capital expenses and to meet their present and future commitments and it is also found that the margin of ratio is increased from 89.15% up to 93.42% which indicate sales level as increased and also increase in the level of profit. It is identified that the cost of the job is increasing for the years up to 47105.04 where the overhead is increasing which also leads to higher profitability. It is identified that profit is increasing in the CVP analysis and job costing which shows a good sign and at the same time gives alarm for the company for their daily activities.

Limitation faced were time constraints due to which collecting detailed information was difficult. As BEML ltd, is into manufacturing products for the ministry of defense, certain areas of the organization were restricted and some information about the organization was disclosed.
It can be analyzed that there is a contact increase in the level of break-even point is. It can be inferred that the company is finding difficult to manage the breakeven point of. Therefore, it should take necessary steps in cost of sales.

The degree of profit volume ratio is in a fluctuating fashion, there is increase and decrease in profit volume ratio year by year. Company has to ensure to make high sales with a limited cost to enhance the profit and should follow the cost effectiveness techniques like CVP analysis.
The fixed costs should be reduced, and cost control techniques can be employed which will boost earnings. The company can take appropriate measures to invest certain amount into working capital. It is useful to boost the profit. The company needs to scale back the wastage of materials whereas producing the product because of it will scale back the resources

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Conclusion

The study further disclosed that the application of cost- volume profit analysis and job-costing ways in decision-making process greatly improve the cost efficiency of manufacturing industries. The company is increasing day-to-day activities to meet the challenges of competitions within the market. From the above analysis of cost reduction strategies and techniques at BEML ltd, it is obvious that the price reduction strategies and techniques is satisfactory.

Further, it was discovered that the benefits from application of cost volume profit analysis include the effective cost control, high productive capacity and improve profitability. BEML with its consistent performance and profitability has been confirmed with mini-ratna category-1 status by the government of India ministry of defence. This status has enhanced the power of board to incur more on capital expenditure on new products. The company can reduce their costs, thereby the sales get increase due to their quality and the performance will be improved in future. Thus, the study suggests the company is making solid investments in their routine operations and fixed assets, which increases their profits and maintain quality standards.

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Notes

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