

To Evaluate the various Cost Analysis of Cement Industry

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Abstract—The role of cement in the field of construction or real estate is essentially important. It is a mixture of compounds and acts as a binding agent which adds to the strength of any construction. However, we've seen within the recent times that the fluctuations within the rate of cement has direct effect on the value of the development. Controlled cement prices, won't only help industries but also individuals, because it will cause cheaper constructions. Cement price, if controlled, will help greatly in achieving target of affordable housing. For this, a corporation must devise and adopt an efficient control over its activities through an efficient mechanism of cost control.

Keywords—Cost Control, Cost reduction, Various costs analysis.

I. INTRODUCTION

Cement is one of the fundamental trades that form a basis for many other industries. It plays a key role in the development of a nation. Cement is a mixture of compounds. Cement is made up of silicates and aluminates of calcium, formed out of calcium oxide, silica, aluminum oxide and iron oxide. Be it business or financial sectors, corporates or infrastructures, all are dependent on the cement industry. Cement is considered the most used building material. All construction works such as building of houses, constructing huge manufacturing units, power plants, roads, ports, etc. need cement as an important ingredient. Indian cement industry is known globally for its quality. Indian cement is competitive internationally as the cement industry follows latest and progressive trends such as cost control and continuous technology up gradation. The Indian cement industry is majorly energy centric. It is the third largest user of coal in the country. Cement industry, as mentioned earlier, uses the latest and the most progressive trends and innovations, which are also amongst the best in the world. The Indian cement industry has a lot of potential for development of high-quality limestone, found throughout the nation.

II. Cement Industry Overview

The Indian cement industry is directly associated with the country's infrastructure sector and thus its growth is paramount in determining the event of the country. With a current production capacity of around 366 million tonnes

(MT), India is the second largest producer of cement in the world and fuelled by growth in the infrastructure sector, the capacity is expected to increase to around 550 MT by FY2020. According to data released by the Department of Industrial Policy and Promotion (DIPP), cement and gypsum products attracted foreign direct investment (FDI) worth US\$ 2,984.29 million between April 2000 and September 2014.

In India, the housing sector is that the biggest demand driver of cement, accounting for about 67 per cent of the entire consumption. The other major consumer of cement include infrastructures at 13 %, commercial construction at 11 % and industrial constructions at nine per cent. To meet the increase in demand, cement companies are expected to feature 56 MT capacity over subsequent three years. The cement capacity in India may register a growth of eight per cent by next year end to 395 MT from the present level of 366 MT. It may increase further to 421 MT by the top of 2017. The country's per capita consumption stands at around 190 kg.

A total of 188 large cement plants together account for 97 per cent of the entire installed capacity within the country, while 365 small plants account for the remainder. Of these large cement plants, 77 are located within the states of Andhra Pradesh, Rajasthan and Tamil Nadu. The Indian cement industry is dominated by a couple of companies. The top 20 cement companies account for nearly 70 per cent of the entire cement production of the country.

III. Structure of Cost in Cement Company under Study

The data of total cost in various cement companies under study were rearranged and classified under the following heads:

- **Raw material consumed:** Raw material consumed consists of the amount spent on various types of raw materials and components consumed while manufacturing. It also includes the amount spent on octroi, carriage inwards etc.
- **Labour cost:** Labour cost forms a second important element of cost, and in a sense, it is true primary cost of production since it will always be required.
- **Total Factory overheads:** Factory overheads include all indirect costs incurred by the manufacturing department from the receiving of raw material until

the product is finished and placed in a saleable condition.

- **Administrative overheads:**Administrative overhead is the “cost of formulating the policy, directing the organization and controlling the operation of an undertaking which is not related directly to a production, selling, distribution, research or development activity or function.”
- **Selling and Distribution overheads:**Selling and Distribution overheads come under the Sales department, which manages the sale of items produced in the undertaking.

IV.Objectives of the Research

- 1) To study various techniques of cost control and cost reduction used in sampled cement company.
- 2) To suggest the measures for cost control and cost-reduction of each element of cost separately.
- 3) To study the trends of various overheads in sampled units.
- 4) To suggest new techniques in cement company with a view to cutting costs and increasing efficiency.
- 5) To make a valuable contribution in the field of cement with the help of this research.

V.Methodology

The simplest meaning of research is to search for actualities, knowledge or facts, answer of questions and find solution to the problems. Research is a purposeful investigation. It is an organized enquiry. It clarifies doubtful facts; corrects the misconceived ideas seeks to find explanations on unexplained phenomenon. This company having substantial production capacity were selected for the purpose of study ensuring equal geographical representation. Period of five years, i.e. 2015-16 to 2019-20 was taken to analyse the cost structure and variations therein. The following null hypotheses:

H01: - The techniques of cost control and cost-reduction could not be properly developed in sampled units.

H02: - Factory overheads, administrative overheads and selling and distribution overheads are not more than material cost and labour cost in sampled cement units.

H03: - There is no significant difference between the proportion of components of cost and total cost of the sampled units.

VI.Findings

From the study done, it is depicted that earlier mentioned techniques used by sampled units, such as budgetary control, standard costing, marginal costing, value engineering and quality control, were unable to reduce cost related to factory overhead and selling and distribution overheads.

Raw material consumed:

Raw material is an important constituent of cost as most of the industries spend practically, this proportion generally varies from 30 – 60

Year	Wonder Cement
2015-2016	29.43%
2016-2017	20.84%
2017-2018	22.35%
2018-2019	21.01%
2019-2020	20.80%
Average	22.43%

percent. In some cases, however, it is as high as 75 percent but it is rarely found below 25 percent in the case of some products. In sampled units taken under present study, on an average material cost is 22.43% percent of the total cost as shown in above table. Though the proportion of material cost to the total cost is having more or less the similar trends in Wonder Cement Company.

Table 1: Material Cost

The percentage of raw material consumed to the total cost in selected Cement Company for the years from 2015-16 to 2019-20 have been calculated and depicted in Table-1. The percentage of raw material consumed by cement company over the years of study reveal that the components of material in total cost have decreased constantly.

Other Factory Overheads:

Factory overhead is an element of factory cost under which all items which cannot be grouped as any one of prime cost is classified. In other words, it may be defined as total factory cost minus prime cost. The word ‘Overhead’s used often and it is defined as a generic name for costs of materials and services not directly adding to or readily identifiable with the products or serviced constituting the main object of an

operation. Factory overhead is collective in nature and common in incidence. The cost so incurred is not readily identifiable with any specific segment of business, unit or operation. Factory overheads include items like indirect material, indirect labour, indirect expenses, factory rent, insurance and depreciation offactory building, power bill, water, rates and repairs, renewals and depreciation of factory plant and machinery.

Table 2: Factory Overheads

Year	Wonder Cement
2015-2016	36.54%
2016-2017	33.44%
2017-2018	30.67%
2018-2019	32.10%
2019-2020	31.06%
Average	32.42%

Since salaries and wages of workers and excise duty have been analysed separately, the remaining factory overheads have, here, been termed as other factory overheads.

On the basis of the Table-2, proportion of factory overheads to the total cost, it may conclude, that the factory overheads of Wonder Cement among sampled years are maximum in the financial year 2015 – 16, i.e. 36.54% and the average being 32.42%.

The contribution of factory overheads to the total cost of sales is 32.42 percent, which should be a matter of concern. So further analysis is to find out those expanses which are playing a major role to increase factory overheads.

Administrative overheads:

On the basis of proportion of administrative overheads to the total cost it may conclude, that the administrative overheads of Wonder Cement among sampled years are maximum in the fiscal year 2015 – 16, i.e. 1.10% and the average being 0.88%.Table-3, given below shows the data of administrative overheads and total cost of sales of five years of the selected company. This expense is termed as administered expense because this is beyond the control of the company and depends entirely upon the policies of the government. An increase in excise duty may indicate the Government's intention to discourage the production in an industry while the cut in the rates of excise duty is treated as an incentive for the industry. The data is tabulated using the information collected from the annual reports of this company for the selected years.

Table 3: Administrative Overheads

Year	Wonder Cement
2015-2016	1.10%
2016-2017	0.96%
2017-2018	0.82%
2018-2019	0.81%
2019-2020	0.80%
Average	0.88%

Selling and Distribution Overheads:

Selling and Distribution overheads are that part of total overheads which are incurred to create and stimulate demand and securing order. Distribution overheads are incurred in sequence of operation which begins with making the product available for dispatch and ends with available it to the vendors making. Selling overheads are incurred for promoting sales and they have no direct relationship with production cost since selling cost may vary widely depending on the channel of distribution adopted, sales promotion policy, availability of finance, extent of competition etc. Given below is the data of selling and distribution Overheads of five years of the Wonder Cement Company. The data is tabulated using the information composed from the annual reports of this company for the selected years. The table shows Selling and DistributionOverheads (displayed in percentage) of Wonder Cement company in a year.

Table 4: Selling and Distribution Overheads

Year	Wonder Cement
2015-2016	25.05%
2016-2017	24.70%
2017-2018	27.88%
2018-2019	28.30%
2019-2020	28.75%
Average	27.19%

Labour Cost:

Labour force is the back bone of any enterprise and the remuneration paid to them is classified as salaries and wages. Besides this, the labour force or the workmen's force is the active participant during production while raw material is passive participant and, thus, it is rather difficult to apply the control measures over the cost incurred on them.

Table 5, give below, shows the data related to labour cost of five years of the sampled unit. The data is tabulated with the

help of information collected from the annual reports of this company for the selected years.

Table 5: Labour Cost

Year	Wonder Cement
2015-2016	9.84%
2016-2017	9.03%
2017-2018	6.98%
2018-2019	7.49%
2019-2020	6.81%
Average	7.82%

On the basis of above table, on an average labour cost is 7.82% as depicted from the study. So, it is obvious that the expenditures incurred on labour in the sampled units is showing an increasing trend during the period of study. Similarly, the proportion of labour cost to total cost is having more or less similar trend in Wonder Cement Company. Here it is worth being mentioned that labour cost includes both direct and indirect labour cost. Thus, in this context, labour cost involves salaries, wages, bonuses, gratuity and benefits, contribution to provident funds and other welfare expenses.

VII.Future Scope

The researcher has come across many interesting topics while conducting this research. In fact, some of the results from the current research generated important question to be explored. A few suggestions and related areas where further investigations required are as follows:

1. Re-specification of financing proportions and inclusion of more proportions from the balance sheet of the companies is always a possibility.
2. The parameters of control and reduction of the cost can always be changed.
3. This study be conducting for some other companies too, or the sample size may be increased.
4. The study can be re-done with an international point of view.
5. The change in the strategies by the cement companies in response to the cost control can be another dimension for research.

VIII.Conclusion

The researcher has made an attempt through the research to study and understand the journey of cement manufacturing from the very inception till today, when cement in an important and a core ingredient in the construction industry. The researcher also made an effort to understand and evaluate the concept of cost and its components and their impact on selected cement company, during the period of study. A thorough analysis has been done on the various components of cost in order to through further light on them. The analysis of the components of cost (such as material cost, labour cost, factory overheads, administrative overheads and selling and distribution overheads) and their contribution to total cost was studied. This analysis enabled the researcher to not only understand the areas where cost is under control but also identify areas that need controlling of cost.

VII.References

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