

## MATERIAL MANAGEMENT IN CEMENT MANUFACTURING COMPANIES IN INDIA

---

Dr. Krati Saxena\*

### ABSTRACT

*The objectives of a firm are often realized only with the general effectiveness of all areas of operation which incorporates the management of materials. Materials management is anxious with input process of producing and includes the flow of raw materials, piece parts, components and finished goods, to produce the sales and marketing functions with product. The 'input' process is separated from the 'output' process because in an exceedingly manufacturing concern the functions involved in the input process finally change the physical state of the merchandise. The important aspects of the material management system are 'materials', time, and space, and the operation of the system aims to beat the issues of 'supply', distance and time, so as to get product for the minimum cost under the constraint of a longtime customer service level requirement. The procurement of materials to supply the merchandise isn't the only real purpose of manufacturing. Materials Management has been branded because the kingpin of production. The task of materials management is integrating external suppliers with internal departments so as to produce a smooth product flow process. Such a task is extremely difficult thanks to the existence of fundamental conflicts like Every supplier aims to maximize his profit, there is also no overall control of materials within the corporate because each department wishes to own security of supply without responsibility for either quality or cost. Other reasons could even be there like there is also no accountability for materials at department level and Costs might not be attenuated to product level or the poor communication gap between the departments within the corporate leading to confusion between the departments. Due to the communication gap between the departments the acquisition department is given too short notice of time which finally ends up in poor working relationships with suppliers and therefore the business. Hence, it's necessary to avoid the conflicts and confusion which normally prevails between the interior departments of the firm and also the suppliers. This may help the firm to avoid a sub optimal form of functioning and to achieve the stage of effective functioning.*

**KEYWORDS:** *Material Management, Cement Industry, Production, Functioning, Statistical Methods.*

---

### Introduction

Materials management may be a total concept involving an organizational structure unifying into one responsibility, the systematic flow and control of material from identification of the necessity through customer delivery. The definition of materials management given above has been accepted by the International Federation of buying and Materials Management. Included within this idea are the material functions of coming up with, scheduling, buying, storing, moving and distributing. The target of materials management is to contribute to increased profitability by coordinated achievement of least materials cost. This can be done through optimizing capital investment, capacity and personnel, in line with the suitable customer service level. Another definition adopted by the National Association of buying Management (USA) reads as "Materials management is an organizational concept during which one manager has authority and responsibility for all activities, principally concerned with the flow of materials into a corporation. (Purchasing, production, planning and scheduling, incoming traffic, internal control,

---

\* Lecturer, Department of Business Administration, S.S. Jain Subodh Mahila Mahavidhaya, Jaipur, Rajasthan, India.

receiving and stores normally are included." In the annals of material Management, very richly it's been described as Last Goldmine. The success of a company actually rests in the way it manages the inputs. The substantial amount of project cost and time may be managed only by adopting the sound principles of material Management. Over the years, industry and business have seen innovators, some conceived radically new ideas in the manufacturing technology, in finance and marketing while others focused on the employment of human resources in the industrial environment.

### Review of Litreature

A lot of Literature has already been written on this subject, however the identical is on Material Management but not specific to Cement Manufacturing companies. We've got well-versed with number of literature and few of them has been accustomed observe the facts and analysis.

**David A. Collier (1952)** of university in his article A Comparison of MRP Lot Sizing Methods Considering Capacity Change Costs opined that the Capacity management is the planning and leveling of resources required (load) against the resources available (capacity). During this study, the lot size models utilized by Material Requirements Planning (MRP) had a significant effect on the work center load profiles generated by Capacity Requirements Planning (CRP). Therefore, the choice of lot size models for MRP systems is a crucial decision for capacity management additionally as materials management.

The studies by **Kinra (1968)** associated with the role of materials and therefore the precautions to be taken by the government in implementing proposals under Five Year Plans. He observed that over Rs.5, 000 corers were spent on materials and stores out of the whole outlay of Rs. 11,710 corers representing over 42.70 percent of the outlay during the primary three plan periods. Further, he also quoted that materials represented 64.00 percent of producing cost in twenty-nine major industries. Lastly, he outlined certain measures like sound organizational structure, standardization, rationalization, codification and value analysis as a package of materials management practice, which could bring down the material cost substantially resulting in higher efficiency level.

In this regard, **Ammer (1970)** Materials Purchase Function observed that some firms didn't have strong independent purchasing of materials activity as late in 1950 and therefore the normal feature was for man was its own material manager, author continues that "when most of the functions associated with material management are grouped together organizationally, the purchasing manager becomes a material manager in fact, if in title. Eventually management recognizes that the function being performed in business department is not any longer purchasing but something else, materials management.

According to **Golearan (1975)** in his article Scope of Materials Management Material management offers a large scope for reducing costs, saving exchange, conserving source, improving productivity and increasing profits. Another source for understanding the potential role of material management has been the potential benefit derived from the applying of specific concepts and techniques in Materials Management.

**Datta (1978)** in his article Mastering Materials- A case Study of Paper Industry opines that "Materials Management is important an activity of an enterprise for the procurement and use of materials distinctly separated from the method of procurement and use of human skills from labourers for the final word development to realize some predetermined objectives.

**Gopal Krishnan and Sudarshan (1979)** in their article Managing Materials Contemporary Challenges opines that "Materials Management is that the function accountable for the co-ordination of coming up with, sourcing, purchasing, moving, storing and controlling material in any optimum manner so provide predecided service to the customer at a minimum cost".

### Objective of Study

The prime objective of this study is:

- Examining the practices of material Management in cement manufacturing companies.
- To judge the importance of Materials Management in improving the profitability of cement manufacturing companies.
- To seek out the explanations of difference between Practices studied by Material Management Professional and Actual Practices of material Management followed in Cement Manufacturing companies.

- To objectively evaluate various factors for influencing the material Management.
- To create concrete suggestions for improving the Materials Management system and practices in cement manufacturing companies, within the light of the findings of the study.

### Hypothesis for Study

In order to present the actual position of material management practices in cement manufacturing companies in India, and to have their comparison with the suggested material management practices, the hypothesis for the study has been undertaken to make evaluation in more practical manner and accurate analysis results can be obtained.

- **Null Hypothesis (H<sub>0</sub>)** : There is no significant difference between various factors of material management in cement manufacturing companies and actual Material Management Practices.
- **Null Hypothesis (H<sub>0</sub>)** : There is no significant difference between the material Management practices followed by different Cement Manufacturing companies.

### Scope of the Study

For the study few cement manufacturing companies has been selected which includes Ambuja Cement Limited, Ultratech Cement, and ACC Cement. Various research Techniques and statistical Techniques has been considered such as ratio, percentages. Average analysis

### Research Methodology

Research Methodology is a logical way to find out the solution of preset problem which is set out for the purpose of finding answer of certain questions using some systematic techniques and selecting a sample.

### Research Objective

The Research Objective is to gather and find the reasons of difference between the methods of material management used in practice by Cement Companies and popular studies methods of Material Management, as well as to find out how Material Management can be implemented with its optimum level and utilization so that efficiency be can achieved and profitability can be increased.

### Sample Design

In the present study for the data collection and analysis, Random Sampling and Stratified Random Sampling Techniques have been used.

### Sample Size

A Sample of twenty to fifty Material Management Professionals from the selected Cement Manufacturing companies has been taken for the purpose of data analysis.

### Data Collection

Secondary Data Collection – Secondary Data is collected from various Research and financial reports of various Cement Companies, their Annual reports, journals, and various other research papers etc.

### Results and Analysis

#### Comparative Analysis of Various Factors

During the process of Comparative Analysis of above mentioned fact of Material Management having significant effect on design and implementation of Material management policies are depicted through the below mentioned table. The results have been gathered through a survey using inquiry from various material management professionals of these three Cement Manufacturing companies.

S. No.	Various Factors	Ambuja			Ultratech			ACC		
		1	2	3	1	2	3	1	2	3
(a)	Demand for the material	52	22	26	45	30	25	51	31	18
(b)	Production capacity of Plant	11	26	63	12	29	59	22	24	54
(c)	Lead Time	41	23	36	55	19	26	61	13	26
(d)	Available Storage capacity	36	45	19	51	45	4	52	37	11
(e)	Available supply of Item	47	31	22	46	33	21	54	36	10
(f)	Rejection rate of Input Material	39	26	35	65	23	12	63	21	16
(g)	Techniques used for forecasting of need of material	23	35	42	27	26	47	20	34	46

**Here**

1 = Represents Agree

2 = Represents Neutral

3 = Represents Disagree

**Interpretation**

The above table depicts the views of assorted Material Management Experts or professional of various companies (Selected for Research) on effect of assorted factors affecting the Management of material. As we see in the table the impact of most of the things whether it's demand for the item of the material or interval or storage capacity or available supply of item or rejection of input material or the techniques, all incorporates a significant impact on material management. Most of the expert has shown their agreement on the identical. However one factor which is production capacity of the plant has found to possess least impact on Material Management. Around Thirty percent of the expert all case remain neutral about the any of the factor. This means that in their opinion that exact factor on which they're neutral don't have any impact on Material Management.

**Conclusion and Recommendations**

After discussing with all above discussion and analysis one thing is obvious that Material Management policies of various cement companies don't have similarities and supported above it are often conclude that there exist difference between various factors of material management in cement manufacturing companies and actual Material Management Practices and there also exists significant difference between the material Management practices followed by different Cement Manufacturing companies. Hence the null hypothesis is rejected. Indian Cement Manufacturing companies still aren't using the material Management policies at its optimum level and hence don't seem to be in position to require the good thing about reduced cost of material. There's lot of more which might be done by the Indian Cement manufacturing companies to attain that level where they will reduce the price of operation to the nice extent. They have got to adopt an integrated approach. Many of the businesses has, little question adopted centralized Management structure and commenced delegating the authority to their employees, but still in India privately held corporation concept exist which stops companies to delegate the facility and it becomes an obstacle in the success of the corporate. Neither the surplus inventory nor the shortage of inventory can benefit the entity. Excess inventory given additional cost of carrying the inventory and non availability of inventory on time gives a halt to production process which result loss of Lakhs of rupees. Proper management of inventory removes the both. The researcher concludes on the above basis that actual policies followed by Material management professional are different from what suggested but yet practical and required. However with the utilization of these suggested policies the results will be made better. Researcher strongly recommends development of a separate department in an organisation as sub department of the assembly department whose work isn't just only to create inspection but to develop the policies for material management comparing the policies followed by other firms in the same business, nationally in addition as inter nationally and implementing the identical with the thing of securing a correct management of material and reduction in the cost.

**References**

1. David A. Collier (1952), "A Comparison of MRP Lot Sizing Methods Considering Capacity Change Costs".
2. Kinra, B, R. (1968) "materials management as an aid to Industrialization," (Lok Udyog, February 1968), pp.31-35. & 29.-34
3. Ammer Dean .S (1970), "Material Management", (Home wood Illinois: Rechar D.Irwin, Inc.)P.8.
4. Golearan (1975), "Scope of Materials Management".
5. Datta A.R (1978), "Integrated Materials Management", (New Delhi: S. Chand & Company Limited), P.4
6. GopaKrishna, P & M.Sundersan (1979), "Material Management: An Integrated Approach", (New Delhi: Prentice Hall of India Private Limited), P.7.

- 56 Inspira- Journal of Modern Management & Entrepreneurship (JMME), Volume 11, No. 01, Jan.-March 2021
7. Mathew, P.V., (1983). "Materials managements in state transports undertaking in Indian with special reference to kerala state road Transports Corporation," (unpublished ph.D. thesis submitted to university of cochin).
  8. Bhattacharya .S (1986), "Production Planning and Control: An integrated Approach" New Delhi, (Vikas Publishing House), P.313.
  9. Ramaswamy, S., (1988). "MBO concept for purchasing," (the materials manager, November - December 1988). PP.24-25.
  10. Subodh, P. and B.K. shamprasad (1990)." Materials Requirement planning: significance of replaning in dynamic manufacturing condition, "A paper presented at IIMM. Bangalore convention and published (the materials manager, January- February 1990).
  11. Pathaj, H.N.(1993), " Economics and materials management ," a paper presented at National convention of materials managements held at board in October 1991 quoted in " the materials manager, (March - April 1993), pp.21.22.
  12. Farooq Ali (1997), "Developing buyer-supplier relationships in the automobile industry".

