

Application of Supply Chain Management in Indian Cement Industry

Mohammad Nizamuddin¹ Dain D Thomas²

¹M.Tech ²Assistant Professor

^{1,2}Department of Mechanical Engineering

^{1,2}FET, MRIIRS, Faridabad, India

Abstract— Supply Chain Management is an integrating function with primary responsibility for linking major business functions and business processes within and across companies into a cohesive and high-performing business model. In this research paper data has been collected through field survey and through internet and magazines and uses the data for the analyses in the research. Here, author has tried to understand the processes of Supply Chain Practices in Cement Companies through the data and try bring quality improvement in the processes.

Key words: Supply Chain Management, Elements of Supply Chain Management, Process of Supply Chain, Cement Industry

I. INTRODUCTION

Supply chain management (SCM) is management of the flow of goods and services, implicates the movement and storage of raw materials, of work-in-process inventory, and of finished goods from starting point to point of consumption. Supply chain management (SCM) is the management of system of the businesses which are interconnected and involved in the delivery of various products and services to the customers. Supply Chain Management includes movements and storage of raw materials, work-in-process and finished inventory from production to its consumption. The term supply chain management came into commonly use in 1990s. Earlier, we were using terms such as logistics and operations management. According to, “Supply Chain incorporates the key business processes of an organization from end user through original suppliers that provides products, services and information that add value for customers and other Stake holders.

A. Supply Chain Management (SCM)

as defined by the Council of Supply Chain Management Professionals (CSCMP): Supply Chain Management incorporates the planning and management of all activities involved in obtaining and procurement, exchange, and all logistics management activities. Importantly, it includes coordination and cooperation with channel partners, which can be suppliers, intercessors, third-party service providers, and customers. In core, supply chain management incorporates supply and demand management within and across companies.

Supply Chain Management is an assimilating function with primary responsibility for connecting major business functions and business processes within and across companies into an organized and high-performing business model. It includes all of the logistics management activities noted above, as well as manufacturing operations, and it drives coordination of processes and activities with and across marketing, sales, product design, and finance and information technology.

B. Elements of Supply Chain Management

Supply chain management constitutes the sequence of interdependent upstream, manufacturing and downstream processes directed at transforming raw materials into products to meet customer demand.

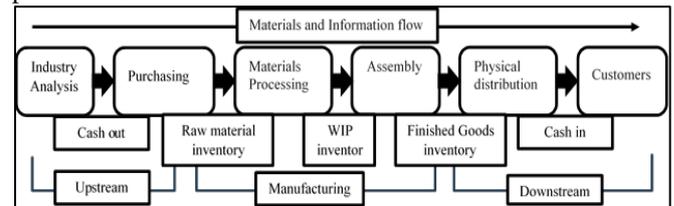


Fig. 1: Illustration of the upstream, manufacturing and downstream activities within the SC. Adapted from reference 1.

– Following are the elements of SCM:

- Suppliers
- Purchasing
- Materials Processing
- Assembly
- Physical distribution
- Customers

C. Application of Supply Chain Management in Cement Industry:

Cement is necessary factor of infrastructure development and most important input of construction industry, mainly in the government’s infrastructure and housing programs, which are necessary for the country’s socio-economic growth and development. Cement is also the most consumed material on the earth. The Indian cement industry is the second largest producer of cement in the world just behind China, but ahead of the United States and Japan. (Sunil kumar, Et al 2013).

In recent years, several trends have been observed in relation to the Supply Chain Management.

- Competition has become a high dimension; it evolved to an intersupply-chain level so SCM has have more and more importance and has become a central part of the strategic management process (Hult et al., 2007).
- It has become clear that effective supply chain management provides the possibility to deliver increased revenue (extended markets and accelerated product/ service innovation), lower costs (lower cost for materials, production, inventory, transportation, or taxes), reduced assets (leveraging outsourcing or improved asset utilization), but successful supply chain strategies require more than the traditional cost-reducing focus (Linton et al., 2007).
- More and more researchers and scholars have thought that Supply Chain Management has to assimilate responsibility into its process and has to communicate to sustainability management.

II. LITERATURE REVIEW

In recent years the supply chain has evolved as a frequent topic in management, logistics and manufacturing literature. A constantly changing business environment is forcing companies to look for new ways to achieve and sustain competitive advantage. The wider availability of goods and services has led to increasing customer requirements, need for quality and demand. Following papers has been assessed for literature review:

A. John Storey et.al. (2006)

critically assess current developments in the theory and practice of supply management and through such an assessment to identify barriers, possibilities and key trends. It reveals the substantial gaps between theory and practice. A number of trends are identified which it is argued may work in favors of better prospects for SCM in the future and for the future of supply management as a discipline.

B. Isabel Agudelo (2009),

found that Cement companies face a major challenge in emerging markets where bulk and bags coexist. To gain competitive advantage, these cement companies have to build two different supply chain strategies, one for each type of product. To cope with the bulk and bagged challenge, supply chain leaders in the cement companies in emerging markets need a team which is able to work in these supply chain environments.

C. Inda Sukatia et.al. (2012)

explore the relationship between supply chain management strategy and chain management practices on supply chain performance. The main tools of data collection instrument used was a questionnaire which was administrated to a total sample of 200 managers are classified by job title and respondents are also classified by their job functions are corporate executive, purchasing, manufacturing/production, distribution/logistic, SCM, transportation, material, and operation from Malaysia manufacturing industry.

D. Bernd Noche et.al. (2013)

found that cement industry lacks of supply chain management and analyzed the supply chain management in cement industry and find out the right supply chain taking into account the specific characteristic of the product and the industry. Governments have to take more steps to develop an adequat infrastructure for transpotation and to give cement producers the opportunity to integrate will their cement supply chains (horizontally and vertically) and leads them use the friendly transportation modes.

E. Deepesh Giri Sharma et.al. (2014)

investigated supply chain management practices in Indian cement manufacturing firm. The Indian cement industry is seeking implementation of green supply chain measures to effectively address these issues. The numbers of respondents need to be increased.

F. Piyush Shukla et.al. (2015)

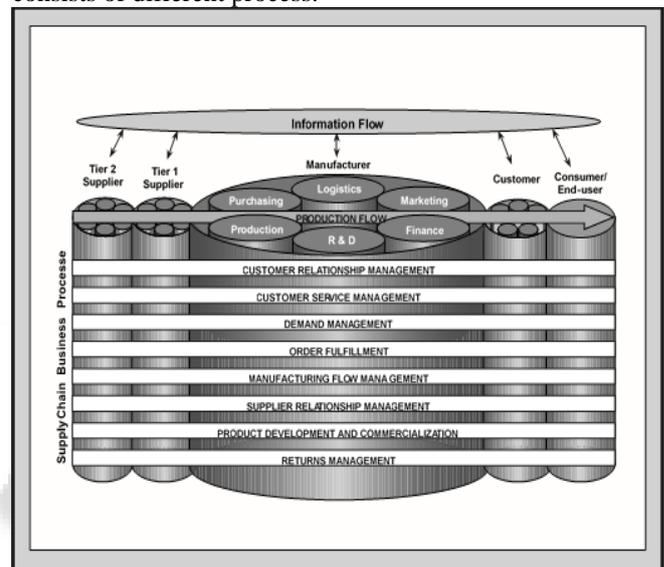
done literature survey of supply chain management & Logistics Management of cement industries and analyzed the data using SWOT analysis. And following conclusions are found from the investigation:

- Survey contributes to the knowledge of the role of supply chain responsiveness and competitive advantage of the firm in supply chain management field.
- Customize the logistics network to the service requirements and profitability of customer segments.
- This survey has faced challenges in regards to limitations of data collection and software capacity along the stages of the simulation modelling.

III. METHODOLOGY

A. Types of process of Supply Chain Practices in Cement Companies:

Cement Industry have become most important sector for the economic development of the country. Use of supply chain management practices can result strengthening and running company for long duration. A Supply chain Management is consists of different process.



Source: Cooper, M. C., Lambert, D. M., and Pagh, J. D.: Supply Chain Management: More Than a New Name for Logistics. *The International Journal of Logistics Management* 8(1), 1–13 (1997).

Fig. 2: Supply chain management: integrating and managing business Processes across the supply chain.

These eight processes and their functions are described as follows:

- 1) Customer Relationship Management (CRM): Provides structure to customer relationship and how such relationships are developed, maintained, and managed. Applying new technologies while using CRM systems requires changes in infrastructure of the organization as well as deployment of new technologies such as business rules, databases and information technology [4].
- 2) Customer Service Management (CSM): Customer service is the provision of services to customers before, during and after a purchase. The perception of success of such interactions is dependent on employees "who can adjust themselves to the personality of the guest" [5].
- 3) Customer Demand Management: Demand chain management creates strategic assets for the firm in terms of the overall value creation as it enables the firm to implement and integrate marketing and supply chain

- management (SCM) strategies that improve its overall performance [6].
- 4) Order Fulfillment Management: Provides integration of the firm's manufacturing, logistics and marketing plans. The order fulfillment strategy has also strong implications on how firms customize their products and deal with product variety [7]. The decoupling point can place a much stronger emphasis on supply chain based on the process as well as nature of supply chain configurations [8].
 - 5) Manufacturing Flow Management: Manufacturing flow management is the supply chain management process that includes all activities necessary to move products through the plants and to obtain, implement, and manage manufacturing flexibility in the supply chain [9].
 - 6) Supplier Relationship Management: Defines how a company interacts with its suppliers. Similar to customer relationship management, partnership management is required to develop key relationship

- 7) Product Development and Commercialization: Provides the development of new products by integrating customers and suppliers in reducing time to market. Timely development of new products and services are keys to firm's success.
- 8) Returns Management: Provides a critical component of sustained competitive advantage for the firm. If the product is defective, the customer would return the product.

Following Abbreviations were used in table:

CRM= Customer Relationship Management, CSM=Customer Service Management, DM= Demand Management, OFM=Order Fulfillment Management, MFM=Manufacturing Flow Management, SRM=Supplier Relationship Management, PD&C=Product Development and Commercialization, RM=Returns Management, Y=yes
TABLE 1. Shows type of business process across supply chain management practices:

Name of cement company	CRM	CSM	DM	OFM	MFM	SRM	PD&C	RM
Adarsh Cement Products Pvt. Ltd.,	Y	Y	Y	Y	Y	Y		Y
Builders Cement Corporation,	Y		Y	Y	Y			Y
Barak Valley Cements Ltd.,			Y	Y	Y			Y
Cement Manufacturing Company Ltd.,			Y	Y	Y			Y
Kanodia Cements Ltd.,	Y	Y	Y	Y	Y	Y	Y	Y
Mangalam Cements Ltd.,			Y	Y	Y			Y
The India Cements Ltd.,	Y		Y	Y	Y			Y
Marwa Cement Industries Pvt. Ltd.,			Y	Y	Y			Y
Cement Corporation of India Ltd.,	Y		Y	Y	Y			Y
Shree Taru Bhawan Cements Ltd.,			Y	Y	Y			Y

Source: Primary Data

The primary essential necessities for SCM Practices are as follows:

Full time In-charge Supply Chain Director

'One-size-fits-all' approach

Full time In-charge Supply Chain Director:

In top management there is only a limited presence of SC directors and those who do exist rarely have the

responsibility for the full scope of the SC. The table 2 depicts the views of the Cement Manufacturers regarding full time in-charge director for handling SC Practices.

TABLE 2. Having director who is full time in-charge for handling for SC Practices:

Name of cement company	Having director who is full time in-charge	No of companies response as yes	Percentage of response	No of companies response as No	Percentage of response
Adarsh Cement Products Pvt. Ltd.,	Yes	1	10	0	-
Builders Cement Corporation,	Yes	1	10	0	-
Barak Valley Cements Ltd.,	No	0	-	1	10
Cement Manufacturing Company Ltd.,	No	0	-	1	10
Kanodia Cements Ltd.,	No	0	-	1	10
Mangalam Cements Ltd.,	No	0	-	1	10
The India Cements Ltd.,	No	0	-	1	10
Marwa Cement Industries Pvt. Ltd.,	No	0	-	1	10
Cement Corporation of India Ltd.,	No	0	-	1	10
Shree Taru Bhawan Cements Ltd.,	No	0	-	1	10
Total			20		80

Source: Field Survey

The Table 2 reveals that 80% of the Cement Companies namely The India Cements Ltd., Marwa Cement Industries Pvt. Ltd., Cement Corporation of India Ltd., Shree Taru Bhawan Cements Ltd., Barak Valley Cements Ltd., Cement Manufacturing Company Ltd., Kanodia Cements Ltd. And Mangalam Cements Ltd., do not have a special director who is full time in-charge for handling for SC Practices and remaining 20% of the Cement Companies namely Adarsh Cement Products Pvt. Ltd, Builders Cement Corporation appointed a special director who is full time in-charge for handling for SC Practices.

B. 'one-size-fits-all' approach:

The majority of companies focus on a 'one-size-fits-all' approach to develop a SC strategy and lose track of the main aspect – the customer. The figure 3 depicts the views of Cement Companies on 'one-size-fits-all' approach a SC strategy and lose track of the main aspect.

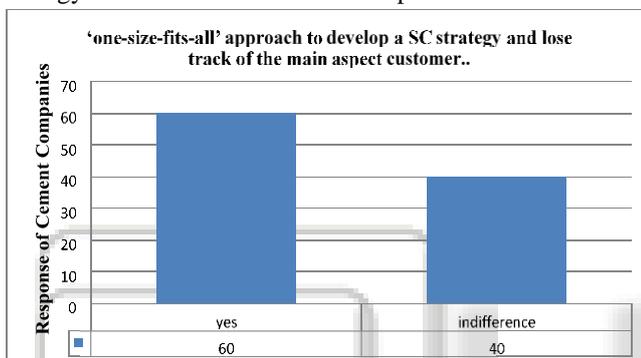


Fig. 3: Respondents views on 'one-size-fits-all' approach

From the Figure 3 the following observations are made:

60% of the cement companies namely Adarsh Cement Products Pvt. Ltd., Kesoram Cements Ltd., Barak Valley Cements Ltd., Cement Manufacturing Company Ltd., Zuari Cements, Mangalam Cements Ltd focus on a 'one-size-fits all' approach to develop a SC strategy and lose track of the main aspect – the customer. Customer is the final and prime target for the growth of any Cement company. The strategy has to be framed in such a way that customer inclusion be made. These Cement Companies made late realization and started giving importance to lose track aspect Customer.

Remaining 40% of the Cement Companies like The India Cements Ltd., Andhra Cements Ltd., Cement Corporation of India Ltd., Shree Taru Bhawan Cements Ltd., failed in their early stage of implementation. These Cement Companies were eager in implementation of new SC concept. With this small strategy mistake they went wrong in handling the SC Practices. Now these companies have realized slowly and are in the process of implementing that lose track aspect Customer.

The figure 3 shows the respondents view on a 'one-size-fits-all' approach to develop a SC strategy and lose track of the main aspect – the customer.

IV. CONCLUSION

This research provides organizational performance in Indian Cement companies. To have a more balanced impression of organizational performance, the study used the data collection analysis technique. Supply chain management

implies that companies cooperate in delivering products and services to customers. One research method that can be applied in such a setting is case study research through data collection, which is appropriate for analyzing supply chains and managerial issues in Indian cement industry.

V. FUTURE SCOPE OF RESEARCH

The future scope of research may be extended by examining other different supply chain management processes and performance outcomes of cement industry worldwide, which may reflect additional interesting relations for longer duration.

Despite several limitations, this research provides the evidence how strategic supply chain management processes can affect organizational performance. At last, it is believed that, this research will motivate researchers to conduct additional research.

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