

# COST REDUCTION USING SUPPLY CHAIN MANAGEMENT

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## ABSTRACT

Supply of chain management is proven concept in the manufacturing industry and has come to along way in the construction industry. In the Indian construction industry which is still considered sector, supply chain management can be implemented with considered improvement in the material flow and the overall cost of the project. In construction procurement and procurement related activities occur during all phases of construction project because of inevitable complexity and fragmentation of the construction process suppliers resources like equipment, labour, material and others activity may not be available on times, in right amounts and in a desired quality and price.

**Keyword :** - supply of chain management, reduced cost, material, etc....

## 1. INTRODUCTION

Supply chain management was born in the manufacturing industry in the 1988 at Shingo with the Just in Time (JIT) delivery system implemented in Toyota, with the main aim of reducing inventories and regulating suppliers' interaction with the production lines. The main implementation of SCM was to standardize the supplies to the Toyota car manufacturers. The outcome of this implementation in Toyota car manufacturers was significant in the context of time and money. It enhances the supplier's communication with production line. With the successful implementation of SCM by Toyota, Japanese industry absorbs SCM as a tool in a short duration, with this adoption SCM become important topic for the researcher too and researchers try to find the possibility of SCM as a tool in different industry domains in parallel to SCM different new approaches also emerged for example value chain and extended enterprise. These concepts also affect the understanding of SCM in the industry.

### 1.1. OBJECTIVES OF THE STUDY

#### Objectives

Following are the objectives of the study

- i) To study the conventional SCM along with its nodes involved in a flyover construction project.
- ii) This study is to identify shortcomings in traditional SCM used in a flyover construction as well as in commercial construction project.
- iii) To investigate the reasons which are responsible for the existence of the shortcomings faced by the supply chain.
- iv) Identifying the ways and means of making the current supply chain more effective and efficient.

## 1.2 Limitations

In this study, the main focus is on the case studies undertaken i.e. on Commercial construction project and flyover project. For achieving objectives of the study, two case studies has been undertaken and analyzed in detail. Furthermore, for achieving economy to the flyover project, this study mainly concentrates on selected material only.

## 1.3 PURPOSE OF THE STUDY

The general purpose of this study is to improve the effectiveness and efficiency of the traditional supply chain adopted by the contractors in general. The intension of this study is to find out the awareness of the industry in the use of SCM and the obstacles faced by the industry and benefits which can be realized in proper implementation of this concept. The study focuses on SCM concept concerning commercial construction project in Shirdi and flyover project in Pune, its adopted SCM patterns, and providing suggestions for its possible future usage.

## 1.4 SCOPE OF THE STUDY

The scope and extent of this study is a detailed study of the concept of Supply Chain Management and its application in flyover construction and commercial construction project highlighting the key benefits of Supply Chain Management demonstrating the advantages of Supply Chain Management by illustrating a live case study and to develop a model which would help to the company for an effective Supply Chain Management in their organization.

## 2. RESEARCH METHODOLOGY

### 2.1 Introduction

As mentioned earlier in Chapter 1, the study carried out in this dissertation work is aimed to reduce cost by SCM approach. On a detailed note this dissertation discusses the main obstacle and benefits of the use of the SCM in projects, including factors to be improved and implemented during the project plan and actions to be taken while the project is going on. In present chapter, methodology for the study is described. This study mainly focuses on qualitative data from the case study in Pune and Shirdi city. The chapter presents steps of research methodology, purpose of qualitative analysis, aim of the qualitative analysis, and finally giving a concluding remark.

### 2.2 Research Methodology

Research methodology consists of three steps as follows:

#### 2.2.1 Literature Review

Literature review is carried out to study and understand the concept of SCM and its applications in construction. The literature review is carried out by studying various research and technical papers, conference proceedings and books. This process will help in understanding the various aspects of SCM along with the problems encountered in the past regarding the topic. The literature review is an important factor in deciding the objectives for the study.

#### 2.2.2 Case Study Approach

The case study approach is undertaken to get acquainted with the traditional SCM and its application in a flyover construction project. The case study approach helps in understanding the on-site shortcomings of the project and the reasons responsible for the shortcomings. The intention to include the case study is to compare the traditional SCM of the flyover project with proposed SCM. This methodology is aimed to understanding the difference between the traditional and proposed SCM & evaluating their utilities for achieving effective and economical results.

#### 2.2.3 Data Analysis

Data for case study was obtained by visiting regularly the construction of flyover at Hadapsar, personal meetings with the Project manager, Quality engineer, Purchase manager, site engineer. The documents provided included work order, proposed plan, purchase order etc. Data analysis will be carried out by comparing the traditional and proposed SCM. The comparison will be done to evaluate the effectiveness of both the SCM processes in cost reduction. The process will consist of finding out the length of both the supply chains and marking the unnecessary nodes in the supply chain. The unnecessary length of supply chain will be attempted to reduce by applying the principles of compression as studied in literature review. The analysis will further continue by evaluating the cost of traditional supply chain and the new reduced supply chain.

## 2.3 Qualitative analysis

Qualitative data collection is concerned with subjective assessment of attitudes, opinions and behavior. It is primarily concerned with qualitative phenomenon, i.e., phenomena relating to or involving quality or kind and aims at discovering the underlying motives and desires, using in depth interviews for the purpose. Qualitative analysis is type of scientific research. In general terms, scientific research consists of an investigation that:

- seeks answers to a questions
- Systematically uses a predefined set of procedures to answer the question

- collects evidence
- produces findings that were not determined in advance
- produces findings that are applicable beyond the immediate boundaries of the study

Qualitative analysis shares these characteristics. Additionally, it seeks to understand a given thesis problem or topic from the perspectives of the local population it involves.

Qualitative analysis is especially effective in obtaining culturally specific information about the values, opinions, behaviors, and social contexts of particular populations.

### 3. CONCLUSIONS

The present chapter described the approach of methodology used for carrying out data collection to study the aspects of cost reduction by SCM approach related to the flyover industry in Pune and Commercial construction in Shirdi. In the upcoming chapter we shall discuss actual case study carried out for this study and analysis of result.

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