



Hindustan Unilever Limited

Hindustan Unilever Limited
Detergents Factory
Off. NH-45A, Vadamangalam,
Puducherry - 605 102. India

Tel : +91 (413) 2666616, 26666
Fax : +91 (413) 2666751
Web: www.hll.com

P-2136

30 July 2007.

To Whomsoever It May Concern

This is to certify that **Miss.R.Pramodhini** Roll No **71206631040**, Student of KCT Business School, Kumaraguru College of Technology, Coimbatore had undergone Project between 19th June 2007 to 30st July 2007 entitled "**A Study on Material Planning in Hindustan Unilever Limited**".

During the tenure, her performance, conduct and behaviour were found to be good.

Name of the Guide : K.S.Srikanth Emp No : S31

Designation : Commercial Executive

Signature of the Guide

HINDUSTAN UNILEVER LIMITED


J.ALEXANDER ARPUTHASAMY
HR MANAGER – PONDY CLUSTER

ACKNOWLEDGEMENT

I express my sincere gratitude to our beloved Correspondent Prof. Dr. K. ARUMUGAM, the prime guiding spirit of Kumaraguru College of Technology. I extend my heart felt thanks to Principal Dr. JOSEPH V. THANIKAL, Kumaraguru College of Technology, Coimbatore for providing facilities to do this project. I express my sincere gratitude and thanks to our Director Dr. S. V. DEVANATHAN for permitting me to carry out this project. I endeavor my sincere gratitude towards my guiding spirit Mrs. Hema Nalini, who has given me all the guidance throughout this project. I extend my sincere thanks and gratitude to Titan Industries Limited for permitting me to do the project. Specially, I would like to thank Mr. K. S. SRIKANTH, Commercial Executive, Hindustan Unilever Limited, Pondicherry.

EXECUTIVE SUMMARY

Material planning is the scientific way of determining the requirements of raw materials, components, spares and other items that go into meeting production needs within the economic investment policies.

Hindustan Unilever Limited (HUL) is India's largest fast moving consumer goods company, with leadership in Home & Personal Care Products and Foods & Beverages. HUL's brands, spread across 20 distinct consumer categories, touch the lives of two out of three Indians. They endow the company with a scale of combined volumes of about 4 million tonnes and sales of Rs.10,000 crores.

Material planning in Hindustan UniLever Limited is done manually on daily basis. The updation of stock level is done everyday. Planning Officer is responsible for planning of material that is to be ordered based on the Production plan released by the Head Office and the BOM

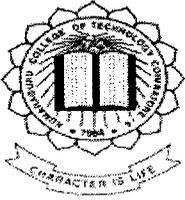
The major problem with MRP systems is the integrity of the data. If there are errors in the inventory data, the bill of material (commonly referred to as 'BOM') data or the master production schedule then the output will also be incorrect. Most vendors recommend at least 98% data integrity for the system to give useful results.

It was found that the total costs of all the inventories were found to be higher during the month of May when compared to the other months. Under the same analysis, the stock cover of the inventories in terms of days was determined. Based on the plan given for the inventories, the stock cover for those inventories above seven days for the given period is also determined.

Thus, the study is concluded with the recommendation to the organization to carry out the MRP in such a way to avoid excess maintenance of stocks more than the required period.

TABLE OF CONTENTS

CHAPTER	CONTENTS	PAGE NO.
1	INTRODUCTION	
	1.1 Background of the study	4
	1.2 Review of literature	4
	1.3 Statement of the problem	6
	1.4 Objectives of the study	6
	1.5 Scope of the study	7
	1.6 Methodology	7
	1.6.1 Type of study	7
	1.6.2 Method of data collection	7
	1.6.3 Tools for analysis	7
	1.7 Limitations	8
	1.8 Chapter scheme	9
2	ORGANISATION PROFILE	
	2.1 About the company	10
	2.2 History of the organization	10
	2.3 Products Profile	11
	2.4 Competitive strengths	12
	2.5 Functional areas	12
	2.6 Organization structure	14
3	MACRO MICRO ANALYSIS	15
4	DATA ANALYSIS AND INTERPRETATIONS	21
5	CONCLUSIONS	
	5.1 Findings	36
	5.2 Considered recommendations	36
	References	38



**“A STUDY ON MATERIAL REQUIREMENT PLANNING IN HINDUSTAN
UNILEVER LIMITED, PONDICHERRY”**

By

R.PRAMODHINI

Reg No: 71206631040

Of

Department of Management Studies
Kumaraguru College of Technology
Coimbatore

A PROJECT REPORT

Submitted to the

FACULTY OF MANAGEMENT STUDIES

In the partial fulfillment of the requirements

for the award of the degree

Of

MASTER OF BUSINESS ADMINISTRATION

JUL'07-AUG'07

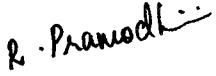
DECLARATION

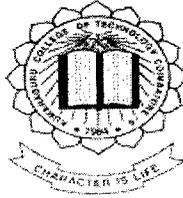
I, hereby declare that this project report entitled “**A Study on Material Requirement Planning in Hindustan Unilever Limited, Pondicherry**” has been undertaken for academic purpose submitted to Anna University in partial fulfillment of the requirements for the award of the degree of Master of Business Administration. The project report is the record of the original work done by me under the guidance of Ms. **Hema Nalini. R**, Lecturer, KCT Business School during the academic year 2007 – 2008.

I, also declare hereby, that the information given in this report is correct to best of my knowledge and belief.

Place: Coimbatore

Date: **29-10-2007**


R.PRAMODHINI
(06MBA40)



KCT Business school
Department of Management Studies
Kumaraguru College of Technology
Coimbatore-641006

BONAFIDE CERTIFICATE

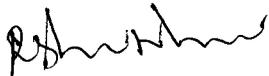
Certified that this project report titled “A Study on Material Requirement Planning in Hindustan Unilever Limited, Pondicherry” is the bonafide work of Ms. **PRAMODHINI.R** (Reg No. 71206631040) who carried this research under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

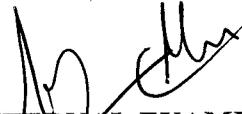

R. HEMANALINI
 FACULTY GUIDE


S. DEVANATHAN
 DIRECTOR

Evaluated and Viva Voce conducted on _____

29/10/07


INTERNAL EXAMINER


EXTERNAL EXAMINER

LIST OF TABLES

TABLE NO.	TITLE OF TABLES	PAGE NO.
1	Material Availability Index (MAI)	21
2	Lead Time Report	23
3	Inventory Valuation Report	25
4	List of High Value Inventories	27
5	Computation of Stock Cover	29
6	Total Cost Incurred	31
7	Computation of Tonnage Requirement	33
8	MRP Report	35

LIST OF CHARTS

CHART NO.	TITLE OF CHARTS	PAGE NO.
1	High Value Inventory	26
2	Total Cost Of Inventory	30

INTRODUCTION

CHAPTER 1 INTRODUCTION

AN OVERVIEW ON MRP:

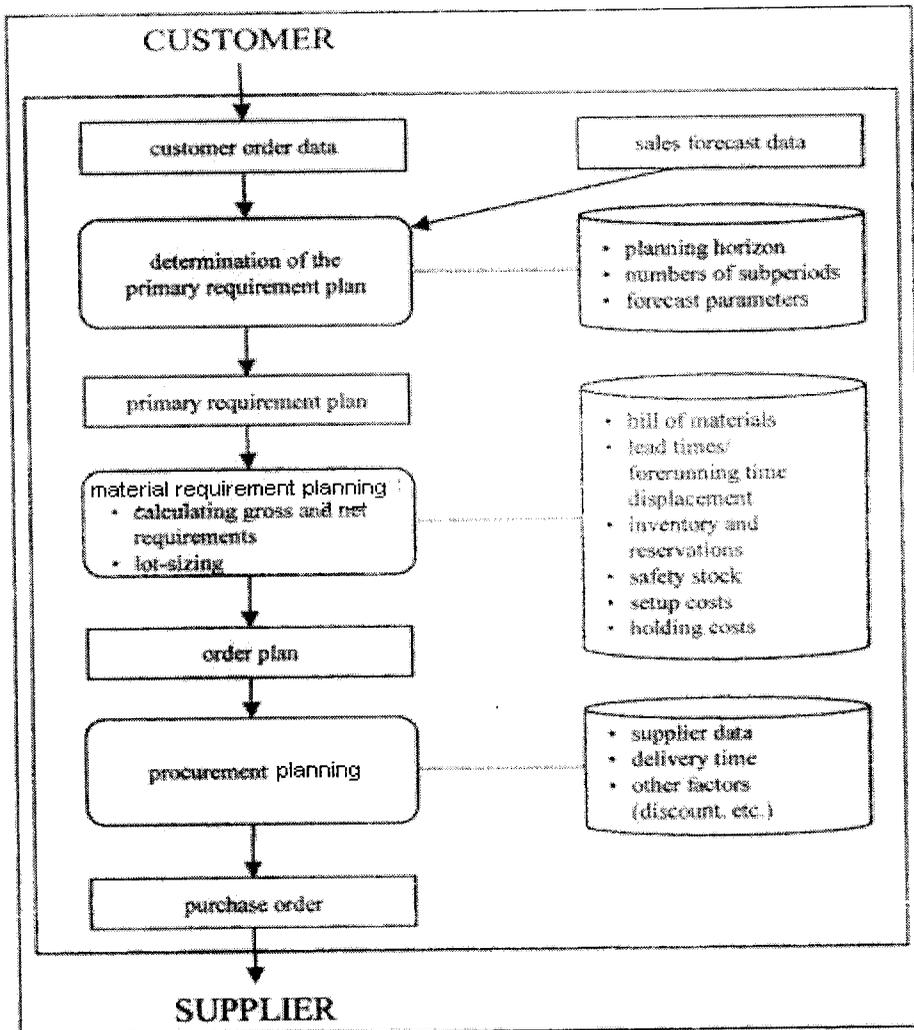
MRP technique (material requirement plan) is a solution relatively new to a classic problem of production: control and coordinate the materials in order to find them available when necessary, and without having the necessity of possessing an excessive inventory.

Material Requirements Planning (MRP) is widely recognized as one of the most valuable materials management tools a manufacturer can have. The Material Requirements Planning subsystem translates your management, marketing, and production planning goals into detailed and coordinated schedules for purchasing and production. It takes into account of a host factors such as lead times, policies, shop calendar, and planned engineering changes, and rapidly generates a complete MRP report for your entire product line.

This application has been designed to coordinate activities of all subsystems to meet production goals. It will automatically manage special part calculations, open and blanket orders, and design changes. It has facilities for manual overrides, open order rescheduling, and firm planned orders. And it offers flexible reporting facilities allowing variable reporting periods, level-by-level pegging, and 'action-only' reporting. Material requirements' planning gives you the orderly, integrated materials management you need.

Material Requirements Planning subsystem, in conjunction with its companion subsystems, can deliver the orderly, integrated control you need. Equally important, its inherent speed, ease of operation, and concise reporting capabilities will enable you to use it efficiently and effectively. With the MFG unique development language and database architecture, the MRP Subsystem gives you a powerful capability for handling the enormous inputs and computations. MRP translates management, marketing, and production planning goals into detailed and coordinated schedules for Purchasing and Production. It will handle your product line and rapidly generate a complete MRP report. It will also schedule planned orders to satisfy net requirements, taking into account lead

times, your shop calendar, shrinkage factors, order policies, and pending engineering changes.



AN OVERVIEW ON MRP

MRP report features:

In generating the Material Requirement Plan report, you have the ability to:

- Print a net-change report
- Set an MRP-EXPLODE flag to either suppress or allow the explosion for a part

- Exclude certain types of parts from MRP processing
- Compensate for shrinkage, and
- Generate material requisitions.

Pegging:

To solve a potential part requirement problem highlighted by the MRP run, a system-generated pegging report is offered. It identifies the source of the part's requirement from its own master schedule or dependent demand from other planned orders, work orders, or firm planned orders. Knowing the source, the planner is able to readily decide the best action.

Rescheduling open orders:

Each time a Material Requirement plan is run, the system checks whether orders should be rescheduled to an earlier (or later) period... determines the proper new period... and prints a message specifying the appropriate moves. MRP does not actually move the orders, but pinpoints the need and leaves the decision to the planner's judgment and experience. Similarly, MRP won't arbitrarily generate planned orders to satisfy parts requirements which can be more practically answered by rescheduling. MRP manages all the pertinent information for you, but leaves final control where it belongs - in your hands.

Overriding the MRP:

Occasionally, MRP logic will indicate that a requirement can't be met when, in fact, expediting an order or reducing a lot size may resolve the problem. The firm planned order facility allows the planner to override the MRP suggestion in such cases.

Tailoring the system to your preferences:

Material Requirements Planning subsystem is easily modified to match your needs. The MRP Report can display information customized to your needs. Further, you control the scope of the MRP. You can include all parts or omit those which do not need exact-quantity planning. And you choose the planning horizon most appropriate to your operation.

1.1 BACKGROUND

Material planning is the scientific way of determining the requirements of raw materials, components, spares and other items that go into meeting production needs within the economic investment policies. Thus it follows that the materials planning function is a sub-system in the overall planning activity.

In any production unit, given a desired schedule for production of finished/processed goods, the raw material and packing material required must be planned for and procured. Efficient inventory management through Material Planning prevents excess inventory stock buildup and safeguarding against the 'stock-out' situation. It mandates dynamic management of the material requirement estimates, timing of supplier schedules, minimizing the inventory cost and thereby facilitates the reduction of working capital. It also reduces the time and effort required for planning at the unit and makes the entire planning process less "person dependent".

Material planning in Hindustan UniLever Limited is done manually on daily basis. The updation of stock level is done everyday. Planning Officer is responsible for planning of material that is to be ordered based on the Production plan released by the Head Office and the BOM.

1.2 REVIEW OF LITERATURE

1. SHOP FLOOR CONTROL IN A MATERIAL REQUIREMENTS PLANNING SYSTEM UNDER VARIOUS LEVELS OF CAPACITY

Author: Joseph R. Biggs

Published in: International Journal of Production Research, Volume 23, Issue 1 January 1985 , pages 33 - 46

ABSTRACT

This paper concerns a study of the effects of using various priority scheduling rules for capacity management and shop floor control in an MRP production system. The results of the study show that the application of different priority rules does cause such a system to perform differently. The indications are that a practitioner could cause his MRP system to

perform in a more desirable fashion by his choice of priority scheduling rules for shop floor control under various capacity levels.

2. AN ANALYSIS OF MATERIAL REQUIREMENTS PLANNING (MRP)

Author: Chee-Chuong Sum, Kum-Khiong Yang, James S. K. Ang and Ser-Aik Quek

Published in: Department of Decision Sciences, Faculty of Business Administration, National University of Singapore, 10 Kent Ridge Crescent, Singapore 0511, Singapore

ABSTRACT

The major finding is that determinant variables such as data accuracy, people support, degree of integration, and company size affect benefits in a nonlinear fashion. Data accuracy was found to be critical in affecting operational efficiency, customer service, and interdepartmental coordination benefits. Another finding suggests that when people support and data accuracy degenerate to a critical level, users might still derive increased benefits by resorting to secondary sources to accomplish their work. Users should strive for a high degree of integration to achieve full operational efficiency and coordination benefits. Partial integration does not appear to provide significant improvements. We also found that increasing company size has a positive, followed by a negative impact on operational efficiency. Lastly, our findings suggest that the pattern of technical complaints can be an indicator of system usage and interdepartmental coordination. Our findings have important implications for managers and users of MRP.

3. INVENTORY MANAGEMENT CRITICAL TO PROFITS.

By: Fishman, Allen. Inside Tucson Business, 05/25/98, Vol. 8 Issue 9, p19;

ABSTRACT:

Focuses on the importance of inventory management to business profits. Cost of the inventory; Ability to fund the inventory; operating efficiency with manual inventory control system; *Material Requirements Planning* an just in time. Another finding suggests that when people support and data accuracy degenerate to a critical level, users might still derive increased benefits by resorting to secondary sources to accomplish their work.

4. MATERIALS REQUIREMENT PLANNING A CALL:

By: Morgan, Rebecca A.. Westchester County Business Journal, 2/14/2005, Vol. 44 Issue 7, p46-46, 1/5p;

ABSTRACT:

The article focuses on issues related to the manufacturing industry in the U.S. If the manufacturers in the country want to survive, many need to begin by waking up. MRP, or *materials requirement planning*, systems were available in the late 1970s. Throughout the 1970s, 1980s and 1990s, they evolved into manufacturing resource *planning* and enterprise resource *planning*, systems capable of integrating most company data. Yet many companies that bought the software still struggle with the basics. Admittedly for some business lean manufacturing may be better means of shop floor execution

5. YOU CAN MANAGE YOUR SUPPLY CHAIN WITH 'MATERIALS' TECHNOLOGY.

By: Romano, Ken. Inside Tucson Business, 4/5/2004, Vol. 13 Issue 40, p12-12, 1/2p;

ABSTRACT:

Focuses on the role of a computer-based supply chain management system on management of business in the U.S. Function of the *material requirements planning* (MRP) system; Access of suppliers to an MRP system; implementation of supply chain technology.

1.3 STATEMENT OF THE PROBLEM:

Due to manual planning there is a mis-match between the standard and the actual plan. This has led to a serious problem of stock outs, which in turn may affect the smooth functioning of Production.

1.4 OBJECTIVES OF THE STUDY:

An MRP system is intended to simultaneously meet these objectives:

- Nil stock-out.
- Ensure materials and products are available for production and which leads to delivery in-time to customers.
- Maintaining the inventory at lowest level.

- Planning manufacturing activities, delivery schedules and purchasing activities.

1.5 SCOPE OF THE STUDY:

All manufacturing organizations, whatever it is they produce, face the same daily practical problem - that customers want products to be available in the market at all times. This requires some level of planning to meet the demand in full.

Companies need to control the types and quantities of materials they purchase, to plan which products are to be produced and in what quantities and ensure that they are able to meet current and future customer demand, all at the lowest possible cost. Company will lose their credentials as well as their market share on taking any bad decisions.

MRP is used by many organizations as a tool to deal with these problems.

- Bills of materials - Details of the materials, components and subassemblies required to make each product.
- Planning Data - This includes all the restraints and directions to produce the end items. This includes such items as: Routings, Labor and Machine Standards, Pull/Work Cell and Push commands, Lot sizing technique(s) (i.e. Fixed Lot Size, Lot-For-Lot, Economic Order Quantity), Scrap Percentages, and other inputs.

1.6 METHODOLOGY:

- TYPE OF STUDY:

As this study says indepth about how the material planning is done over a period of time for the smooth functioning of production. Descriptive study is found to be more suitable.

- METHOD OF DATA COLLECTION:

Secondary Data

- The source for the collection of data is company records.

- TOOLS FOR ANALYSIS:

- ABC analysis
- Material Availability Index(MAI)
- Inventory Valuation

1.7 LIMITATIONS:

- The limitation is that there are chances of overlooking certain values because of manual operations. And also the schedules cannot be prepared accurately.
- The major problem with MRP systems is the integrity of the data. If there are errors in the inventory data, the bill of material (commonly referred to as 'BOM') data or the master production schedule output will also be incorrect. Most vendors of this type of system recommend at least 98% data integrity for the system to give useful results.
- Another major problem with MRP systems is the requirement that the user specify how long it will take a factory to make a product from its component parts (assuming they are all available).
- Additionally, the system design also assumes that this "lead time" in manufacturing will be the same each time the item is made, without regard to quantity being made, or other items being made simultaneously in the factory.

1.8 CHAPTERIZATION

CHAPTER 1

This chapter covers the INTRODUCTION of the study which constitutes Background of the study, Review of Literature, Objectives and scope of the study, Methodology used, and limitations of the study.

CHAPTER 2

This chapter covers the ORGANIZATION PROFILE which constitutes History, Management, Organization Structure, Products Profile and Market Potential, Competitive Strength and description about the functional areas of the organization.

CHAPTER 3

This chapter covers the MICRO AND MACRO ANALYSIS which explains the prevailing scenario with respect to the industry and the company selected for the study.

CHAPTER 4

This chapter covers the data analysis and interpretation out of it.

CHAPTER 5

This chapter covers the results, discussions and recommendations of the study.

ORGANISATION PROFILE

CHAPTER 2

ORGANIZATIONAL PROFILE

Hindustan Unilever Limited (HUL) is India's largest fast moving consumer goods company, with leadership in Home & Personal Care Products and Foods & Beverages. HUL's brands, spread across 20 distinct consumer categories, touch the lives of two out of three Indians. They endow the company with a scale of combined volumes of about 4 million tonnes and sales of Rs.10,000 crores.

The mission that inspires HUL's 36,000 employees, including about 1,350 managers, is to "add vitality to life". With 35 Power Brands, HUL meets everyday needs for nutrition, hygiene, and personal care with brands that help people feel good, look good and get more out of life. It is a mission HUL shares with its parent company, Unilever, which holds 51.55% of the equity. A Fortune 500 transnational, Unilever sells Foods and Home and Personal Care brands in about 100 countries worldwide.

2.1 HISTORY OF PARENT COMPANY – UNILEVER LIMITED

Unilever was formed in 1930 when the Dutch company Margarine Unie merged with British soap maker Lever Brothers. Both were competing for the same raw materials, and were involved in large scale marketing of household products and used similar distribution channels. Between them, they had operation in over 40 countries. Margarine Unie grew through mergers with other Margarine companies in the 1920s.

Lever Brothers was founded in 1888 by William Hesketh Lever. Lever established soap factories around the world. In 1917 he began to diversify into foods, acquiring fish, icecream and canned foods businesses. For more than 70 years, unilever has provided consumers with quality products and services. Many of its brands have international appeal while others are leaders in local markets. It is their keen understanding of cultures and markets that allows them to anticipate consumer's needs and to provide them with what they need, when they need it.

2.2 PRODUCTS PROFILE

PERSONAL WASH

Lux	Breeze
Lifebuoy	Dove
Liril	Pears
Hamam	Rexona

LAUNDRY

Surf Excel	Fair & Lovely
Rin	Pond's
Wheel	Vaseline

HAIR CARE

Sunsilk	Pepsodent
Clinic Plus	Closeup

ORAL CARE

DEODRANTS

Axe	Lakme
Rexona	

COLOUR COSMETICS

FOOD

TEA

Brooke Bond
Lipton

COFFEE

Brooke Bond Bru

FOODS

Annapoorna
Kissan

ICECREAM

Kwality Wall's

WATER

Pureit Water Purifier

Unilever believes in vigorous yet fair competition and supports the development of appropriate competition laws. Unilever companies and employees will conduct their operations in accordance with the principles of fair competition and all applicable regulations.

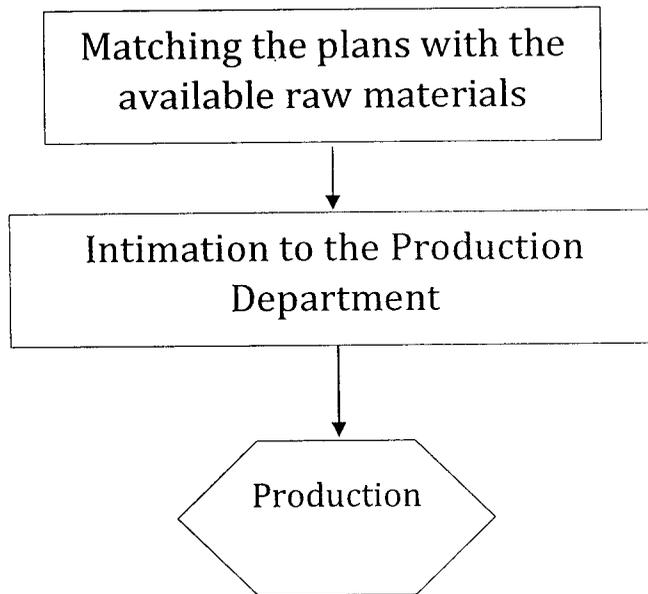
2.3 COMPETITIVE STRENGTHS OF HUL (Globally)

- Its investments are around £600 million in technology and innovation each year
- They spend £3.5 billion a year for marketing their brands
- They employ 306000 people with 90% managers locally recruited and trained
- Their employees handle one million electronic messages daily
- Every day 150 million people choose their brands to feed their families and to clean their homes.
- Their HPC and Food products are sold in 150 countries

2.4 FUNCTIONAL AREAS OF HUL

Production Department

Basically Production Department must start with Forecasting, which requires the past and present to be projected into the future to predict it. Sales forecasts are generally used to determine the extent and pattern of production. It is thus the function of planning in production department to determine what is to be done. An adequate organization structure has also to be determined for the production function. Proper evaluation of materials requires recording and reporting.



Quality Clearance

Quality is a matter of great significance in HUL. The products of HUL speak for the above statement any material coming into the factory is led for the quality clearance and only then it is taken for production. In the same manner, the finished goods are dispatched after getting the QC cleared.

There are various steps involved in Quality Clearance like chemical tests and microbiological analysis which are done to check raw material, finished goods and packing materials. HUL gives much concentration to Quality because it wants to render only quality products to its consumers.

Stores Department

The stores department of any organization is one which looks in to the arrival handling storage and packaging of the raw materials and the finished goods respectively. Its objective is to establish a systematic procedure for all the activities.

Engineering Stores

This is a place where the spares of the machines are maintained. The Production department raises a Purchase Requisition Order to the engineering stores, based on the need. According to the availability, order is made to the Supplier. Two types of spares are maintained namely;

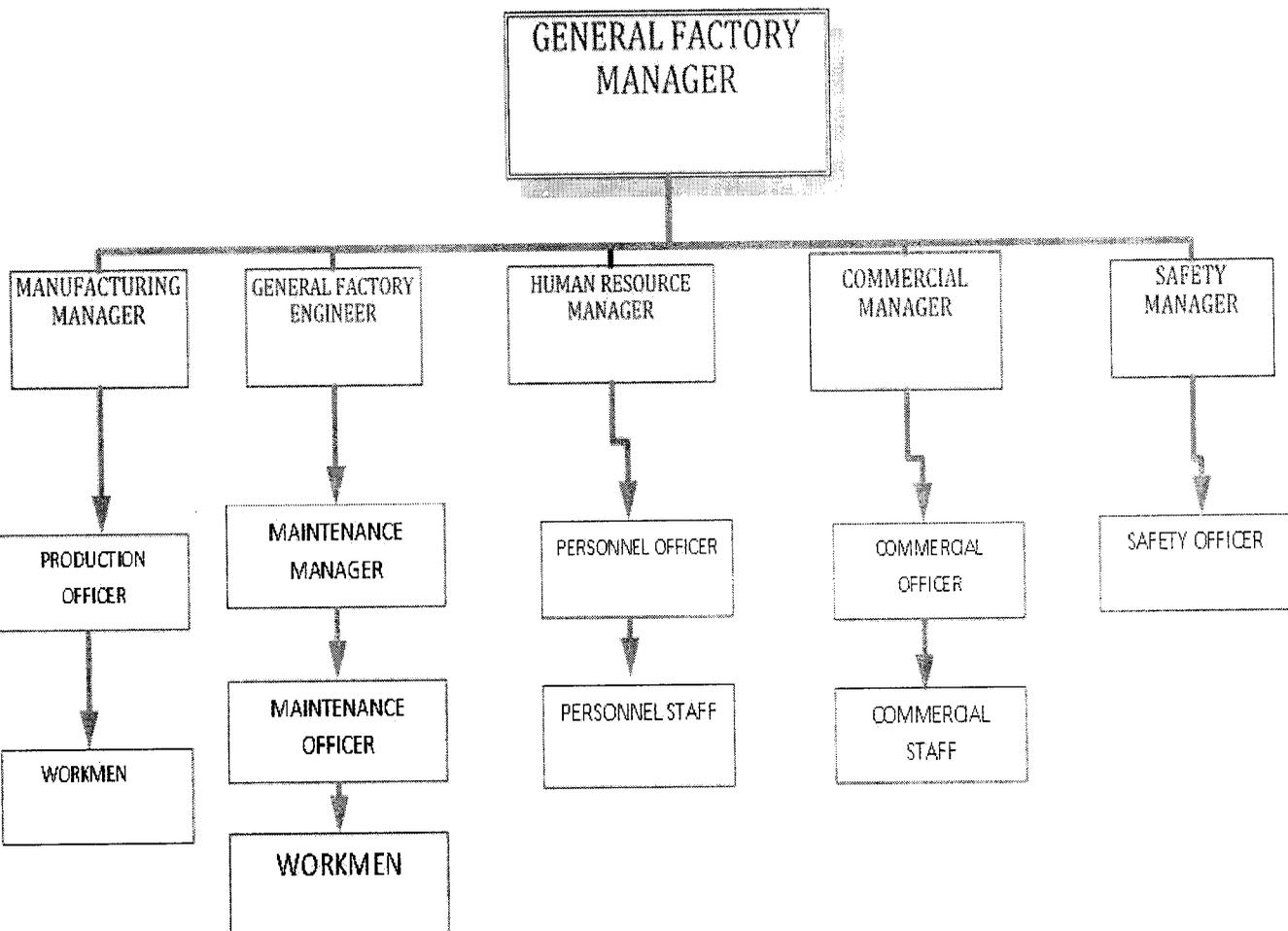
- Inventory Spares
- Non-Inventory Spares

Banking System is a type where the Vendors place their spares in the unit. Whenever the need arises the spares could be used.

Despatch Department

This is the final function of the commercial department. As the materials get converted into fine finished products, they are ready for Despatch. It is a measure for checking up the efficiency of the units. According to the indent received through the Adexa software the goods are sent to various depots.

2.5 ORGANISATION STRUCTURE



MACRO & MICRO ANALYSIS

CHAPTER 3

MACRO MICRO ANALYSIS

MACRO ANALYSIS OF FMCG SECTOR

Fast Moving Consumer Goods (FMCG), also known as Consumer Packaged Goods (CPG), is products that have a quick turnover and relatively low cost. Though the absolute profit made on FMCG products is relatively small, they generally sell in large numbers and so the cumulative profit on such products can be large.

Examples of FMCG generally include a wide range of frequently purchased consumer products such as toiletries, soap, cosmetics, teeth cleaning products, shaving products and detergents, as well as other non-durables such as glassware, bulbs, batteries, paper products and plastic goods.^[1] FMCG may also include pharmaceuticals, consumer electronics, packaged food products and drinks, although these are often categorized separately.

Supplier industries for FMCGs include 1511 meat and meat products, 1512 fish and fish products, 1513 fruit and vegetables, 1514 vegetable and animal oils and fats, 1520 dairy products, 1531 grain mill products, 1532 starches and starch products, 1533 animal feeds, 1541 bakery products, 1542 sugar, 1543 cocoa, chocolate and sugar confectionery, 1544 macaroni, noodles, couscous, 1549 other food products, 1551 spirits; ethyl alcohol, 1552 wines, 1553 malt liquors and malt, 1554 soft drinks, mineral waters, 1600 tobacco products, 2101 pulp, paper and paperboard, 2102 corrugated paper, containers, 2109 other articles of paper and paperboard, 2424 soap and detergents, cleaning preparations, perfumes.

There's a saying in the industry that goes "everyone has to eat." To this I would add "and wash their clothes and brush their teeth." Unlike some industries, such as automobiles, computers, and airlines, FMCG does not suffer from mass layoffs every time the economy starts to dip. You may put off buying a car, but you don't put off dinner. This lends FMCG a level of job security unknown in other industries.

FMCG products can be thought of in contrast with consumer durables, which are generally replaced less than once a year (e.g. kitchen appliances).

Some of the best known examples of Fast Moving Consumer Goods companies are Reckitt Benckiser, Sara Lee, Nestlé, Unilever, Procter & Gamble, Coca-Cola, Carlsberg, Kleenex, General Mills, Pepsi and Mars.

A subset of *FMCGs* are Fast Moving Consumer Electronics which contain innovative electronic products such as mobile phones, MP3 players, digital cameras, GPS Systems, cell phones and Laptops which are replaced more frequently than other electronic products. White goods in FMCG refer to large household electronic items such as refrigerators. Smaller items, TV sets, stereo systems etc. are sometimes termed Brown goods.

Fuelled by growing fascination of youth towards the fast moving consumer goods (FMCG) and rising income levels, the FMCG market in rural and semi-urban parts is likely to grow at a faster pace in the next three years while the urban areas may register a drop in growth. "The rural market contributes 52% to the total FMCG market in India, which is expected to grow by 10% by 2010, driven by 180 million young populations," an Assocham statement said. The semi-urban market is expected to grow by 6% in the next three years and contribute 21% to the country's total market, up from 19%. In chamber's view, in urban India the market size is estimated at 29% which is likely to come down to 22% by 2010 as consumers are becoming more health conscious and shift away towards adoption of organic products. As per industry estimates, the total size of domestic FMCG market in volume terms is \$15 billion, of which \$7.9 billion come from rural areas and \$2.85 billion from semi-urban markets while metros and other cities contribute \$4.2 billion. "The government's permission to 100% FDI in FMCG will further fuel the growth in rural and semi-urban India," V N Dhoot, president, Assocham said.

MICRO ANALYSIS OF HUL

Mission:

Unilever's mission is to add **Vitality to life**. We meet everyday needs for nutrition, hygiene, and personal care with brands that help people feel good, look good and get more out of life.

Corporate purpose:

Unilever's mission is to add Vitality to life. We meet everyday needs for nutrition, hygiene and personal care with brands that help people feel good, look good and get more out of life.

Our deep roots in local cultures and markets around the world give us our strong relationship with consumers and are the foundation for our future growth. We will bring our wealth of knowledge and international expertise to the service of local consumers - a truly multi-local multinational. Our long-term success requires a total commitment to exceptional standards of performance and productivity, to working together effectively, and to a willingness to embrace new ideas and learn continuously.

To succeed also requires, we believe, the highest standards of corporate behaviour towards everyone we work with, the communities we touch, and the environment on which we have an impact.

This is our road to sustainable, profitable growth, creating long-term value for our shareholders, our people, and our business partners.

Past miles stone:

In the summer of 1888, visitors to the Kolkata harbour noticed crates full of Sunlight soap bars, embossed with the words "Made in England by Lever Brothers". With it, began an era of marketing branded Fast Moving Consumer Goods (FMCG). Soon after followed Lifebuoy in 1895 and other famous brands like Pears, Lux and Vim. Vanaspati was launched in 1918 and the famous Dalda brand came to the market in 1937. In 1931, Unilever set up its first Indian subsidiary, Hindustan Vanaspati Manufacturing Company, followed by Lever Brothers India Limited (1933) and United Traders Limited (1935).

These three companies merged to form HUL in November 1956; HUL offered 10% of its equity to the Indian public, being the first among the foreign subsidiaries to do so. Unilever now holds 51.55% equity in the company. The rest of the shareholding is distributed among about 380,000 individual shareholders and financial institutions. The erstwhile Brooke Bond's presence in India dates back to 1900. By 1903, the company had launched Red Label tea in the country. In 1912, Brooke Bond & Co. India Limited was formed. Brooke Bond joined the Unilever fold in 1984 through an international acquisition. The erstwhile Lipton's links with India were forged in 1898. Unilever acquired Lipton in 1972, and in 1977 Lipton Tea (India) Limited was incorporated. Pong's (India) Limited had been present in India since 1947. It joined the Unilever fold through an international acquisition of Chesebrough Pong's USA in 1986. Since the very early years, HUL has vigorously responded to the stimulus of economic growth. The growth process has been accompanied by judicious diversification, always in line with Indian opinions and aspirations. The liberalisation of the Indian economy, started in 1991, clearly marked an inflexion in HUL's and the Group's growth curve. Removal of the regulatory framework allowed the company to explore every single product and opportunity segment, without any constraints on production capacity. Simultaneously, deregulation permitted alliances, acquisitions and mergers. In one of the most visible and talked about events of India's corporate history, the erstwhile Tata Oil Mills Company (TOMCO) merged with HUL, effective from April 1, 1993. In 1995, HUL and yet another Tata company, Lakme Limited, formed a 50:50 joint venture, Lakme Lever Limited, to market Lakme's market-leading cosmetics and other appropriate products of both the companies. Subsequently in 1998, Lakme Limited sold its brands to HUL and divested its 50% stake in the joint venture to the company. The 1990s also witnessed a string of crucial mergers, acquisitions and alliances on the Foods and Beverages front.

In 1992, the erstwhile Brooke Bond acquired Kothari General Foods, with significant interests in Instant Coffee. In 1993, it acquired the Kissan business from the UB Group and the Dollops Icecream business from Cadbury India. As a measure of backward integration, Tea Estates and Doom Dooma, two plantation companies of Unilever, were merged with Brooke Bond. Then in July 1993, Brooke Bond India and Lipton India merged to form Brooke Bond Lipton India Limited (BBLIL), enabling greater focus and ensuring

synergy in the traditional Beverages business. 1994 witnessed BBLIL launching the Wall's range of Frozen Desserts. By the end of the year, the company entered into a strategic alliance with the Kquality Icecream Group families and in 1995 the Milkfood 100% Icecream marketing and distribution rights too were acquired. Finally, BBLIL merged with HUL, with effect from January 1, 1996. The internal restructuring culminated in the merger of Pond's (India) Limited (PIL) with HUL in 1998. The two companies had significant overlaps in Personal Products, Speciality Chemicals and Exports businesses, besides a common distribution system since 1993 for Personal Products. The two also had a common management pool and a technology base. The amalgamation was done to ensure for the Group, benefits from scale economies both in domestic and export markets and enable it to fund investments required for aggressively building new categories. In January 2000, in a historic step, the government decided to award 74 per cent equity in Modern Foods to HUL, thereby beginning the divestment of government equity in public sector undertakings (PSU) to private sector partners. HUL's entry into Bread is a strategic extension of the company's wheat business. In 2002, HUL acquired the government's remaining stake in Modern Foods. In 2003, HUL acquired the Cooked Shrimp and Pasteurised Crabmeat business of the Amalgam Group of Companies, a leader in value added Marine Products exports.

PRESENT STATURE:

Hindustan Unilever Limited (HUL) is India's largest Fast Moving Consumer Goods company, touching the lives of two out of three Indians with over 20 distinct categories in Home & Personal Care Products and Foods & Beverages. They endow the company with a scale of combined volumes of about 4 million tonnes and sales of Rs.10,000 crores. HUL is also one of the country's largest exporters; it has been recognised as a Golden Super Star Trading House by the Government of India. The mission that inspires HUL's 16,000 employees, including over 1,200 managers, is to "add vitality to life." HUL meets everyday needs for nutrition, hygiene, and personal care with brands that help people feel good, look good and get more out of life. It is a mission HUL shares with its parent company, Unilever which holds 51.55% of the equity.

The rest of the shareholding is distributed among 380,000 individual shareholders and financial institutions. HUL's brands - like Lifebuoy, Lux, Surf Excel, Rin, Wheel, Fair & Lovely, Pond's, Sunsilk, Clinic Plus, Pepsodent, Close-up, Lakme, Brooke Bond, Kissan, Knorr-Annapurna, Kwality Wall's – are household names across the country and span many categories - soaps, detergents, personal products, tea, coffee, branded staples, ice cream and culinary products. They are manufactured over 40 factories across India. The operations involve over 2,000 suppliers and associates. HUL's distribution network comprising about 4,000 redistribution stockists, covering 6.3 million retail outlets reaching the entire urban population, and about 250 million rural consumers. HUL has traditionally been a company, which incorporates latest technology in all its operations. The Hindustan Unilever Research Centre (HLRC) was set up in 1958, and now has facilities in Mumbai and Bangalore. HLRC and the Global Technology Centres in India have over 200 highly qualified scientists and technologists, many with post-doctoral experience acquired in the US and Europe. HUL believes that an organisation's worth is also in the service it renders to the community.

HUL is focusing on health & hygiene education, women empowerment, and water management. It is also involved in education and rehabilitation of special or underprivileged children, care for the destitute and HIV-positive, and rural development. HUL has also responded in case of national calamities / adversities and contributes through various welfare measures, most recent being the village built by HUL in earthquake affected Gujarat, and relief & rehabilitation after the Tsunami caused devastation in South India. In 2001, the company embarked on an ambitious programme, Shakti. Through Shakti, HUL is creating micro-enterprise opportunities for rural women, thereby improving their livelihood and the standard of living in rural communities. Shakti also includes health and hygiene education through the Shakti Vani Programme, and creating access to relevant information through the iShakti community portal. The program now covers 15 states in India and has over 31,000 women entrepreneurs in its fold, reaching out to 100,000 villages and directly reaching to 150 million rural consumers.

By the end of 2010, Shakti aims to have 100,000 Shakti entrepreneurs covering 500,000 villages, touching the lives of over 600 million people. HUL is also running a rural health programme – Lifebuoy Swasthya Chetana. The programme endeavours to induce adoption of hygienic practices among rural Indians and aims to bring down the incidence of diarrhoea. It has already touched 70 million people in approximately 15000 villages of 8 states. The vision is to make a billion Indians feel safe and secure. If Hindustan Unilever straddles the Indian corporate world, it is because of being single-minded in identifying itself with Indian aspirations and needs in every walk of life.

DATA ANALYSIS &

INTERPRETATION

INTERPRETATION:

- The cell in yellow color indicates the stock out of the raw material
- From this analysis of MAI the day on which stock out arises has been interpreted
- Like wise the right day for placing an order for the raw materials has been inferred.
- Through the Material Availability Index, the day on which the stock-out arises is revealed.

LEAD TIME REPORT

ITEM NAME	uom	SS CAPACITY	SS LT	TRANSIT LT	QLY LT	SAFETY STK	MIN ORDER	ORDER MUL
causic soda	tn	30	1	1	1	50	10	10
EHDP	kg	2	4	5	1	2000	5000	40
EDTA	kg	1	4	5	1	1000	3000	40
Aloe Vera	kg	100	8	5	5	100	100	25
FRISIS	tn	50	5	7	5	60	16	16
Refined Glycerine	kg	1	3	2	1	15000	9000	9000
Tio2	kg	1	7	2	5	5000	5000	500
Muriel perf	kg	1	5	1	1	500	3000	200
Salt	tn	1	2	1	1	5	16	16
perf L9	kg	1	7	5	1	500	3000	200
Loofah Powder	tn	2	7	7	5	0.3	0.5	0.025
Micro Scrub	kg	2	7	7	5	500	500	25
Perfume Ubtan	kg	1	7	4	1	500	3000	200
Perfume Pink	kg	1	7	4	1	500	3000	200
Perfume Lime	kg	1	7	4	1	500	3000	200
Sorbitol	kg	4	5	7	1	8000	6000	250
Perfume Rexona	kg	1	7	4	1	500	3000	200
Perfume Total	kg	1	7	5	1	500	3000	200
Perfume Care	kg	1	7	5	1	500	3000	200
Sulphonic Acid	tn	40	2	0	0	35	16	1
Needles	tn	9	5	5	1	10	9	9
AOS Paste	tn	5	2	1	1	15	16	16
Soda Ash	tn	40	3	1	1	50	9	9
STPP	tn	16	5	7	1	40	16	16
Alum Sulphate	tn	10	2	1	1	20	10	10
Clay	tn	25	2	1	1	50	16	16
Calcite	tn	60	2	1	1	100	16	16
Perfume Advanced	tn	1	7	1	1	1	0.9	0.18
Dolomite	tn	25	2	1	1	70	16	16
Phos Acid	tn	5	5	5	1	15	16	16
Lacquer	kg	1	5	5	1	3000	3000	200
Perfume Vim	kg	1	7	5	1	950	1750	175

TABLE-2

Lead time report maintained inHUL

INVENTORY VALUATION REPORT

Item Number	Description	JAN07	FEB07	MAR07	MAR	APR	MAY07	MAY	JUN07	JUN	TC FOR 6 MONTHS(AVG COST)				
IC929402	Sulfonic Acid 90% - 50-80T	153	3,393,354	50	2147140	155	6245536	177	6245536	177	4166911	5649767	949673		
IC935402	SODA -SH (LGH)	341	4,594,143	364	5465682	364	4283656	237	2071610	445	10650960	225	490969	2336260	4227412
IC937901	Sodium Tri Poly Phosphat.	100	3,710,014	72	2364386	103	3712391	71	3712391	71	3321116	90	202447	2659933	3432269
IC938501	Caustic Soda Lvs 100%	142	2,771,478	167	2269346	171	3264026	132	2452644	201	202447	162	300642	4732263	2526492
IC938903	PERFORME RN SHARF BAR- Extrapolance 34 (H2O)	214	874,601	3093	2147951	3205	2271166	1548	1337276	2035	1373024	3520	1128335	9622441	1615407
IC939402	Feris	6390	1,612,978	161	1355632	205	1551132	193	1452347	140	1074920	203	1599545	9622475	1497073
IC940101	Perfume LB Red-Sprigflower	350	2,421,599	2793	3639224	2465	3400823	3166	1053626	3306	1273620	2429	1096537	7695969	13914641
IC940201	Calcite-Normal	3611	2,037,196	301	1332241	460	1079632	463	1023310	532	1083551	537	4076429	7628163	4271931
IC940303	Trichlore Carbonide (TC)	30	1,711,166	153	583331	1664	642811	3697	163674	2108	714330	2237	742113	5697165	932651
IC940403	Alpha Olefin Sulfonate need 9'	30	2,053,677	6	563632	6	392172	5	363695	19	1261911	11	739772	3359169	369696
IC940404	Hammam Soud Bath 10kg	7347	928,249	8416	316675	6700	346829	8628	374653	8628	374653	6181	760350	5114300	8622595
IC940604	Glycerine Refined	22606	839,096	6690	627243	23436	1039183	24227	713556	20663	242617	30426	1122615	3677400	945496
IC940701	Phosphoric Acid 85% 100% basis	31187	1,805,849	39678	336671	26647	797091	27773	397943	24517	738677	18465	596234	4697414	762942
IC940801	Perfume Hammam Uthair - Leather flow (H2O)50%PK	4131	2,094,439	294	149822	2156	1085106	616	413420	152	392426	365	464960	4612764	769736
IC940802	PERFORME LB ORANGE -Amulet 1% Imp	3227	951,687	945	272473	1609	374130	2675	363376	2691	3771739	482	132566	366265	541378
IC940803	Sorbitol	27337	699,495	2,224	581331	80636	272635	16182	393569	18116	514145	18416	1518970	2865945	460931
IC940804	Stiffener 130/10 60mm IL	5572	259,424	12106	536682	7577	342970	3243	233144	13450	596529	42765	668423	2506441	426740
IC940805	WRAPPERS RN ADVANCED B&B 12kg cromo	681	131,744	2262	229647	4657	472266	4468	453835	3685	371627	2613	233740	2514960	419143
IC940806	Polypag Lux-Almond night 45g	445488	363,687	382666	319107	332364	416700	532647	415436	510514	390759	296267	223454	2126684	354181
IC940807	Wrappers 100% polycoat 20kg poster poly	5192	546,226	2941	311561	2438	263972	3065	324105	3326	349650	3072	318927	2161935	362623
IC940808	Polypags LB Total 5kg red	472672	248,546	2722	270241	42295	265485	347974	224073	568974	932640	457525	294945	1780295	259716
IC940809	Wrappers 100% polycoat 40kg poster poly	3629	315,240	1274	334165	2724	279582	1974	639633	2654	260040	2394	232026	1685590	281536
IC940810	WRAPPERS RN ADV 25% OR. CROMO	6306	618,360	969	333104	4267	434077	3174	273974	2344	233935	2694	292216	1679462	279744
IC940811	Perfume Revoas-Fresh Orade 10kg	6615	266,911	6617	299699	3722	166263	3172	253113	3636	397162	2659	105388	1493675	240279
IC940812	Stiffeners 130/10-60mm	1379	355,240	1166	307187	467	234665	3272	264307	4266	387126	3953	238205	1437465	239576
IC940813	Perfume White Green OR. B&B 10% 17555	27207	253,119	430032	334390	473999	32471	32724	264307	32724	45624	24006	104166	1270289	210730
IC940814	Polypag Revoas 45g	1916	187,019	367	127614	1236	133548	142	1372	213	26443	1652	129516	706431	116739
IC940815	Stiffener 175/10 82mm	1716	36,077	2664	149226	3094	65056	2699	16435	163	2610	103	6335	530916	63406

TABLE-3

INTERPRETATION:

- The total cost of the raw materials for 6 months and the average cost for the same have been evaluated.
- From the Inventory Valuation it is determined that, the total cost of Sulphonic acid is higher when compared to the other high value inventories.

LIST OF HIGH VALUE INVENTORIES

HIGH VALUE INVENTORIES							
Item Number	Description	JAN	FEB	MAR	APR	MAY	JUN
1CBSPA02	Sulphonic Acid 90% - 90 Klett	90	81	84	92	101	117
1CBASH02	SODA ASH (LIGHT)	41	55	42	28	53	35
1CBSTP01	Sodium Tri Poly Phosphat	33	24	37	24	59	29
1CBCAS01	Caustic Soda Lye 100%	28	23	32	25	38	30
1CPRSB03	PERFUME RIN SHAKTI BAR- Extravagance 344 (MOD)	9	22	23	14	19	11
1CAFR102	Frisis	16	14	16	14	11	16
1cplbr01	Perfume LB Red Springflower	24	9	9	12	13	11
1CMCAL01	Calcite Normal	20	13	11	10	11	11
1COTCC01	Trichloro Carbonilide (TCC)	17	6	6	12	7	7
1CBAOS03	Alpha Olefin Sulphonate need 92	21	6	4	4	13	7

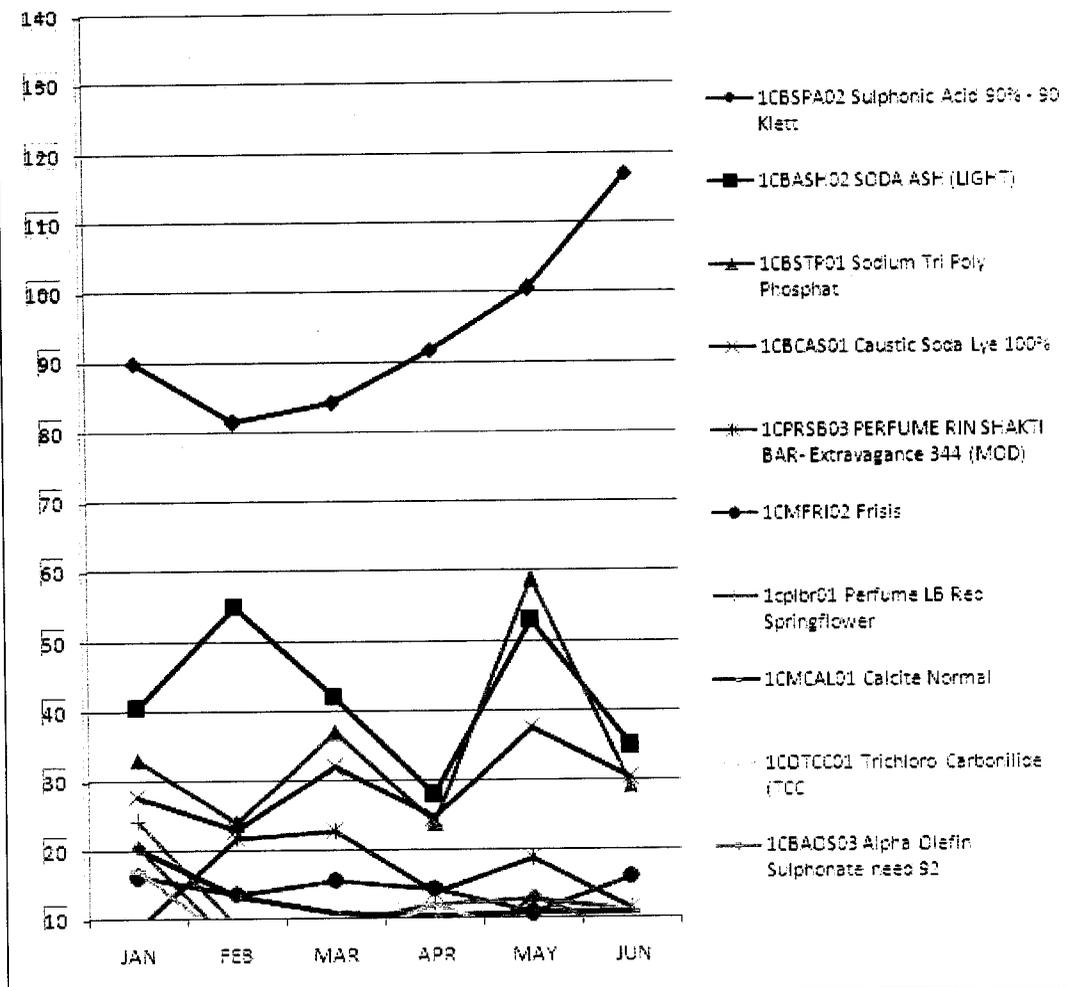


TABLE-4

INTERPRETATION:

- Through the analysis, the raw material for which the cost incurred was high for a period of six months has been found.

STOCKCOVER

Item No	Description	PERIOD	JAN		FEB		MAR		APR		MAY		JUN		JUL						
			Stock cover (days)	TC	Stock cover (days)	TC	Stock cover (days)	TC	Stock cover (days)	TC	Stock cover (days)	TC	Stock cover (days)	TC	Stock cover (days)	TC					
1029402	Sulfamic acid 98% - 91kg/t	27	63	6	6	150	6	144710	65	6	946560	177	7	978267	194	7	1005060	225	6	1186541	
1029403	Sulfamic acid 98% (LIFT)	24	24	11	4	140	14	203602	24	11	420066	27	7	207540	46	13	524509	26	9	240060	
1029404	Sodium Tri-Cyanoacetate	4	100	26	3	104	72	19	284406	103	26	374294	71	18	200066	181	47	530710	90	23	222277
1029405	Calcium Sulfate	14	162	10	2	117	3	228340	10	11	224028	102	10	246240	201	15	338287	162	12	300062	
1029406	PERFORMIC ACID 50% (LIFT)	0	1	12	3	20	3	214301	3	31	227160	2	16	160076	3	25	107024	2	15	116310	
1029407	PERFORMIC ACID 50% (LIFT)	7	210	33	1	101	20	135832	20	31	152132	100	24	140247	140	21	107420	205	31	163634	
1029408	PERFORMIC ACID 50% (LIFT)	0	6	16	2	6	6	69624	2	6	94080	3	3	149206	3	6	127600	3	7	106837	
1029409	PERFORMIC ACID 50% (LIFT)	29	600	17	13	201	30	102241	30	12	102902	166	13	142216	322	14	106051	327	14	107429	
1029410	PERFORMIC ACID 50% (LIFT)	0	3	37	2	10	6	60001	2	14	64081	4	27	168016	2	16	74250	2	17	24016	
1029411	PERFORMIC ACID 50% (LIFT)	1	30	25	6	7	6	33602	6	6	33612	3	4	33606	19	16	129101	11	5	23072	

TABLE - 5

INTERPRETATION:

- From the above table. The stock cover in terms of days was determined, based on the stock on hand & per day requirement.

TOTAL COST

MTHS	JAN	FEB	MAR	APR	MAY	JUN
	153327026	138764151	120875678	145246054	162879268	144118504
TC	15	14	12	15	16	14

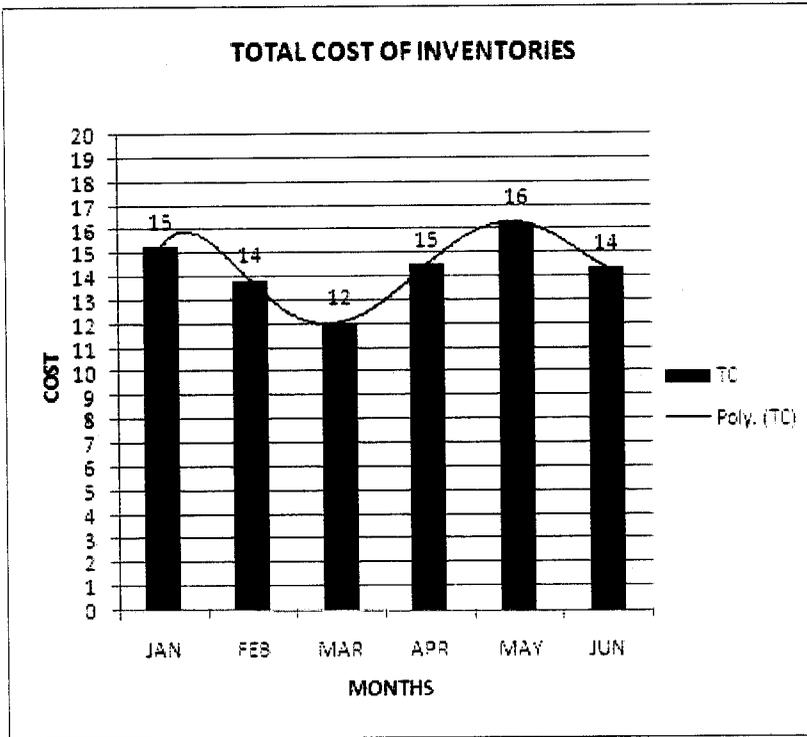


TABLE-6

INTERPRETATION:

- The analysis reveals that the total cost incurred was high during the month of may when compared to the rest of the months.

COMPUTATION OF TONNAGE REQUIREMENT

Item Number	Description	JAN'07	FEB'07	MAR'07	APR'07	MAY'07	JUN'07
1CBSPA02	LAB	153	150	156	177	194	225
1CBASH02	SODA ASH (LIGHT)	341	464	354	237	446	295
1CMCAL01	Calcite Normal	650	501	480	498	532	527
1CBSTP01	Sodium Tri Poly Phosphat	100	72	109	71	181	90
1CBAOS03	Alpha Olefin Sulphonate need 92	30	8	6	5	19	11
1CPRS03	PERFUME RIN SHAKTI BAR- Extravagance 344 (MOD)	1244	3093	3230	1948	2685	1620

TONNAGE EQUIVALENT :

LAB	1423	1402	1456	1647	1805	2093
SODA ASH (LIGHT)	3528	4799	3666	2449	4618	3062
Calcite Normal	3751	2891	2767	2874	3068	3039
Sodium Tri Poly Phosphat	3762	2701	4086	2660	6770	3363
Alpha Olefin Sulphonate need 92	1128	310	215	195	718	411
PERFUME RIN SHAKTI BAR- Extravagance 344 (MOD)	1554738	3865973	4037405	2434899	3356708	2025194

LAB	663.3	615	604	475	563	567
SODA ASH (LIGHT)	608	560	548	430	515	523
Calcite Normal	1175	1024	1040	817	941	1137
Sodium Tri Poly Phosphat	181	160	158	124	148	169
Alpha Olefin Sulphonate need 92	165	152	151	118	139	142
PERFUME RIN SHAKTI BAR- Extravagance 344 (MOD)	5	5	5	4	4	5

7 DAYS ONLY REQ :

LAB	26	24	23	18	22	22
SODA ASH (LIGHT)	23	22	21	17	20	20
Calcite Normal	45	39	40	31	36	44
Sodium Tri Poly Phosphat	7	6	6	5	6	6
Alpha Olefin Sulphonate need 92	6	6	6	5	5	5
PERFUME RIN SHAKTI BAR- Extravagance 344 (MOD)	0.2	0.2	0.2	0.1	0.2	0.2

LAB	6	6	7			
SODA ASH (LIGHT)						
Calcite Normal						
Sodium Tri Poly Phosphat						
Alpha Olefin Sulphonate need 92	5	1	1	1	4	2
PERFUME RIN SHAKTI BAR- Extravagance 344 (MOD)						

Indicates the stock cover above 7 days

TABLE-7

INTERPRETATION:

- The red color indicates stock cover above 7 days.
- From this the requirement level of the raw materials per week in terms of tones for six months has been determined.
- Likewise the total cost of all the inventories were found to be higher during the month of May when compared to the other months.

MRP REPORT

	JAN				FEB				MAR				APR				MAY				JUN						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
M1	11.20%	30.8	63.28	49.28	63.84	44.8	46.5	47.5	51.0	51.2	56	56	63.28	57.12	0	0	64.96	57.12	62.16	60.48	24.64	47.6	76.16	67.2	67.2	56	58.96
M2	13%	35.75	71.5	38.5	81.9	50.05	61.4	71.5	39	54.6	78	72.8	0	0	63.96	54.6	65	63	88.6	55.28	66.85	48.1	68.45	55.28	68.45	55.28	
M3	6%	11.2	24	19.2	28	31.2	28	38.8	38.6	36.4	32.8	28	32	0	0	40	32	32	16	28.4	25.6	23.2	19.2	17.2	18.4		
TOTAL	10.17%	77.75	158.78	126.98	173.74	126.89	154.78	152.05	152.05	156.32	180.3	131.4	143.4	162.28	161.92	0	0	168.92	163.72	159.16	141.48	118.94	128.43	186.31	184.5	138.65	133.03
M1	11%	28.875	38.325	46.2	58.85	42	48.325	49.875	49.875	52.5	52.5	59.325	59.325	0	0	60.9	59.325	58.75	56.7	23.1	44.825	71.4	63	51.3	55.68		
M2	12.30%	34.375	68.75	56.25	78.75	48.125	68.75	68.125	68.125	66	68.75	57.5	75	70	0	0	61.5	52.5	62.5	77.5	53.25	64.375	46.25	58.25	51.25	51.25	
M3	6%	8.4	18	14.4	21	23.4	23.4	21	21	27.6	26.7	24.6	21	24	0	0	30	24	24	12	21.3	19.2	17.4	14.4	12.9	13.8	
TOTAL	9.67%	71.63	146.075	116.85	159.6	113.525	140.875	138	139	141.15	143.25	127.3	158.325	147.25	0	0	152.4	130.05	144.75	131.1	121.9	116.85	153.175	133.65	123.95	122.575	
M1	40%	110	226	176	228	168	186	190	190	204	198	200	226	204	0	0	232	204	222	216	88	178	272	240	200	212	
M2	12%	33	66	54	75.6	46.2	66	65.4	65.4	57.6	66	36	50.4	72	67.2	0	0	33.04	50.4	60	60	74.4	51	61.8	44.4	53.8	51
M3	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	17.13%	143	292	230	303.6	204.2	252	255.4	255.4	261.6	264	286	286.4	298	271.2	0	0	265.04	254.4	282	276	162.4	271	333.8	284.4	253.8	262
M1	5%	13.75	28.25	22	28.5	26	23.25	23.75	23.75	35.5	23.75	25	25	28.25	25.5	0	0	29	25.5	27.75	27	13	21.25	34	30	25	26.5
M2	3%	8.25	16.5	13.5	18.9	11.55	16.5	16.35	16.35	14.4	16.5	9	12.6	18	16.8	0	0	14.76	12.6	15	15	18.6	12.75	15.45	11.1	13.95	12.75
M3	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	2.67%	22	44.75	35.5	47.4	37.55	39.75	40.1	40.1	50	40.25	34	37.6	46.25	42.3	0	0	43.76	38.1	42.75	42	25.6	34	49.45	41.1	38.35	39.25
M1	3%	8.25	16.5	13.2	17.1	12	13.95	14.25	14.25	15.3	14.25	15	15	16.95	15.3	0	0	17.4	15.3	16.65	16.2	6.6	12.75	20.4	18	15	15.9
M2	3%	8.25	16.5	13.5	18.9	11.55	16.5	16.35	16.35	14.4	16.5	9	12.6	18	16.8	0	0	14.76	12.6	15	15	18.6	12.75	15.45	11.1	13.95	12.75
M3	2%	2.8	5.6	4.4	5.8	3.6	4.8	4.8	4.8	5.4	4.8	2.4	3.6	5.4	4.8	0	0	5.4	4.8	5.4	5.4	2.4	4.8	7.2	6.6	4.3	4.6
TOTAL	2.67%	19.3	39.45	31.5	41.8	27.15	35.25	35.6	35.6	45.1	35.6	31.1	35.8	43.8	40.1	0	0	42.16	35.9	39.65	39.2	31.3	31.5	41.65	33.9	33.25	34.25
M1	0.15%	0.425	0.845	0.66	0.855	0.6	0.6975	0.7125	0.7125	0.765	0.7125	0.75	0.75	0.8475	0.765	0	0	0.87	0.765	0.8325	0.81	0.33	0.6375	1.02	0.9	0.75	0.795
M2	0.05%	0.2675	0.495	0.405	0.567	0.405	0.495	0.495	0.495	0.4725	0.495	0.27	0.378	0.54	0.504	0	0	0.4408	0.378	0.45	0.45	0.558	0.3825	0.4635	0.333	0.4185	0.3825
M3	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	0.00%	0.66	1.3425	1.065	1.422	1.005	1.1925	1.203	1.203	1.197	1.2075	1.02	1.128	1.3875	1.269	0	0	1.3108	1.144	1.2825	1.26	0.888	1.02	1.4835	1.133	1.1885	1.1775

TABLE-8

INTERPRETATION:

- Considering the stock on hand & per day requirement, the stock cover of raw materials above seven days has been highlighted.

RESULTS & DISCUSSIONS

CHAPTER-4

RESULTS & DISCUSSIONS

4.1 FINDINGS:

- Through the Material Availability Index, the day on which the stock-out arises is revealed.
- From the Inventory Valuation it is determined that, the total cost of Sulphonic acid is higher when compared to the other high value inventories.
- Likewise the total cost of all the inventories were found to be higher during the month of May when compared to the other months.
- Under the same analysis, the stock cover of the inventories in terms of days was determined.
- Based on the plan given for the inventories, the stock cover for those inventories above seven days for the given period is also determined.

4.2 RECOMMENDATIONS:

General

- Frequent Demand variations.
- Low responsiveness of the shop floor/ vendors.
- Delay in feedback mechanism to the system for an MRP recommendation to be correct.
- The on hand quantity should be accurate.
- The expected order (open orders) status should be accurate.
- The demand should be right.
- The lead times should be more or less correct.

From the study:

- The organization to carry out the MRP in such a way to avoid excess maintenance of stocks more than the required period.
- Instead of manual planning, it is advisable to the company to go in for the latest erp packages, which will eliminate the mismatch between standard and actual plan.

BIBLIOGRAPHY

BIBLIOGRAPHY

REFERENCES:

BOOKS:

- R.Paneer Selvam, Production and Operations Management, Prentice Hall of India, 2002.
- Sang M Lee and Marc J Schniederjans, Operation Management, All India Publishers and Distributors, First Indian edition 1997.
- K.Aswathappa, K. Shridhara Bhatt Production & operations management, Himalaya publishing house, 2005.
- Martand T. Telsang, production management, S.Chand & Co , 2005

WEBSITES:

- [www. Productionmanagement services.com](http://www.Productionmanagement services.com).
- www.inventoryops.com.
- En.wikipedia.org/wiki/Agricultural science.

JOURNALS:

- Inventory management on the move, chain storage, Jun'07.
- Analysis survey reveals widespread inventory management pain points, business wire May'07.