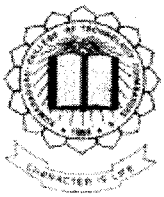

A STUDY ON THE INVENTORY MANAGEMENT OF ROOTS INDUSTRIES LIMITED

By

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of

Department of Management Studies
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Coimbatore

A PROJECT REPORT
Submitted to the

FACULTY OF MANAGEMENT STUDIES

In partial fulfillment of the requirements
for the award of the degree

of

MASTER OF BUSINESS ADMINISTRATION

August, 2007

DEPARTMENT OF MANAGEMENT STUDIES

KUMARAGURU COLLEGE OF TECHNOLOGY

COIMBATORE

BONAFIDE CERTIFICATE

Certified that this project report titled **"A STUDY ON THE INVENTORY MANAGEMENT OF ROOTS INDUSTRIES LIMITED"** is the bonafide work of **Ms. B. SARANYA (71206631046)** who carried out the 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.

Faculty Guide

Director

Evaluated and vice-voce conducted on 29/10/07

Examiner I

Examiner II

Company Certificate

ROOTS

SL. No. : 2277 Date : 18.09.07.

PROJECT / INPLANT TRAINING / INTERNSHIP CERTIFICATE

This is to certify that ~~Mr.~~ / Ms. B. SARANYA

MBA IInd year student of KUMARAGURU COLLEGE

OF TECHNOLOGY has ~~done~~ / undergone / ~~a Project~~ / ~~Inplant tra~~ining / ~~Internsh~~ip on

" THE INVENTORY MANAGEMENT "

in our ROOTS INDUSTRIES LIMITED. during

the period from JUNE '07 to AUGUST '07

During this period ~~his~~ / her conduct was GOOD

(KAVIDASAN)
GENERAL MANAGER - CORPORATE HRD.

Declaration

DECLARATION

I, hereby declare that this project report entitled as "A study on the inventory management of roots industries limited", has undertaken for academic purpose submitted to Anna University in partial fulfillment of requirement 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 Mrs. R. Hema Nalini during the academic year 2007-2008.

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

Place: Coimbatore

Date: 29.10.2007

B. Saranya

(B. SARANYA)

Acknowledgement

ACKNOWLEDGEMENT

It is inevitable that thoughts and ideas of other people tend to drift into the subconscious when one feels to acknowledge helping derived from others. I acknowledge to all those who have helped me in the preparation of this project work.

I would like to thank the god almighty for his guidance without whom this project wouldn't have become reality.

I wish to express my deep gratitude to the principal **Dr. Joseph V. Thanikal** for his guidance and encouragement to complete my project work.

I wish to express my sincere thanks to **Prof. Devanathan** – Director, KCT Business School, for his continuous encouragement throughout my project.

I owe my heartfelt gratitude to **Mrs. R. Hema Nalini,** KCT Business School, for her help and valuable guidance given to me through out my project.

I express my sincere thanks to **Mr. Kavidasan,** Head Corporate-HR, Roots Industries Limited, Coimbatore for granting permission to do my project work.

I extend my sincere gratitude to **Mr. G. Balasubramaniam,** Company Secretary, Roots Multiclean Limited, for his guidance to complete my project successfully.

Lastly I thank **Mr. N. Sampath Kumar,** Associate Head Training and Development and all the employees in the organization who were involved knowingly or unknowingly to make this project work successful.

Executive Summary

EXECUTIVE SUMMARY

Inventory control is a critical aspect of a successful management. Inventory management requires continuous decision making. Corporate managers can increase the probability of making good inventory management decisions by using fundamental inventory management strategies. Companies cannot afford to have any money tied up in excessive inventories.

In the study, efforts have been made to conduct a detailed analysis of inventory management functions in Roots Industries Ltd. The main objective of the present project is to study the inventory management of Roots Industries Limited and to give suggestions for better inventory management.

The data has been analyzed for the past five years i.e. from 2001-2002 to 2005-2006. The nature of data was secondary data source pertaining to annual reports of the company.

The major tool used to analyze the data collected is ratio analysis which is a widely used management accounting technique.

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CHAPTER - 1

INTRODUCTION

1.1. BACKGROUND:

Inventories constitute the most significant part of current assets of large companies. Because of the large size of inventories maintained by firms, a considerable amount of funds is required to be committed to them. It is, therefore, absolutely imperative to manage inventories efficiently and effectively in order to avoid unnecessary investment.

It is possible for a company to reduce its levels of inventories to a considerable degree, without any adverse effect on production and sales by using simple inventory planning and control techniques. The reduction on excessive inventories carries a favourable impact on a company's profitability.

1.1.2. Nature of Inventories:

Inventories are stock of the product of a company is manufacturing for sale and components that make up the product. The various forms in which inventories exist in a company are: raw materials, work-in-progress & finished goods.

- **Raw materials** are those basic inputs that are converted into finished product through the manufacturing process.
- **Work-in-process** inventories are semi-manufactured products. They represent products that need more work before they become finished products for sale.
- **Finished goods** inventories are those completely manufactured products which are ready for sale.
- **Supplies (or stores and spares)** include office and plant cleaning materials like fuel, oil, etc. These materials do not directly enter production, but are necessary for production process.

1.1.3. Need for inventories:

Maintaining inventories involves tying up of company's funds and incurrence of storage handling costs. There are three motives for a company to hold inventories in spite of these costs.

- **Transactions motive** emphasis the need to maintain inventories to facilitate smooth production and sales operations.
- **Precautionary motive** necessitates holding of inventories to guard against the risk of unpredictable changes in demand and supply forces and other factors.
- **Speculative motive** influences the decision to increase or reduce inventory levels to take advantage of price fluctuations.

A company should maintain adequate stock of materials for a continuous supply to the factory for an uninterrupted production. It is not possible for a company to procure raw material whenever it is needed. A time lag exists between demand for material and its supply. Also, there exists uncertainty in procuring raw materials in time on many occasions. Therefore the firm should maintain sufficient stock of raw materials at a given stream line production.

Work in process inventory builds up because of the production cycle. Production cycle is the time span between introduction of raw materials into production and emergence of finished product at the completion of production cycle. Till production cycle completes, stock of work in process has to be maintained. The way to reduce this inventory is to make production cycle shorter by improving the production techniques.

Stock of Finished goods has to be held because production and sales are not instantaneous. A firm cannot produce immediately when goods are demanded by customers. Therefore to supply finished goods has also to be maintained for sudden demand from customers. Failure to supply products to customers when demanded would mean loss of the firm's sales to competitors.

1.1.4. Objectives of inventory management:

The objective of inventory management should be to maintain adequate level of inventory and to maintain a minimum investment in inventories to maximize profitability. An effective inventory management should

- Ensure a continuous supply of raw materials to facilitate uninterrupted production
- Maintain sufficient stock of raw materials in periods of short supply and anticipate price changes
- Maintain sufficient finished goods inventory for smooth sales operations and efficient customer service
- Minimise the inventory costs
- Control inventory investment by maintaining optimum inventory

1.1.5. Factors influencing inventory:

An important step in inventory management is the determination of investment in each component of inventory such as raw materials, work-in-progress and finished goods. Some important factors which influence the level of each component are:

Raw material inventory:

- To avoid interruption in the process of production the quantity representing safety stocks
- Economy in the matter of purchases
- Anticipated fluctuations in the prices of materials in the future
- Expected quantity of consumption
- Management's efficiency in the purchases and control of the materials
- Carrying costs
- Funds available for investment in raw materials

Work –in-process inventory:

Investment in work-in-process consists of the cost of raw materials and the direct expenses connected with production and allocation of proportionate overhead expenses. It should be noted that the investment in the goods in the process of manufacture is influenced by the period taken in the production process. The volume of production is an important determinant of work-in-process. If there is increase or decrease in production the investment in work-in-process also increases or decreases. Production should therefore coincide with sales. The amount of funds tied up in the work-in-process will also directly fluctuate with sales levels. The cost of raw materials used, wages and other direct expenses included in work-in-process are the factors that generally influence the investment in work-in-process.

Finished goods inventory:

- Finished goods inventory are generally maintained to the minimum by producing only to orders
- Policy of producing for anticipated order and stock keeping
- Goods required for the purpose of minimum and safety stocks
- Sales policies of the firm
- Price fluctuations for the product

1.2. REVIEW OF LITERATURE:

Edward A. Silver (1981)[1] observed that the objectives of inventory management, including the relevant related costs, are examined in this paper. A brief review of standard problems, that have been effectively solved, is presented. However, we point out that a serious gap exists between theory and practice in many organizations. Suggestions are made for bridging this gap. Finally, a list is provided of a number of research problems whose implement able solution would have a major beneficial impact on the practice of inventory management.

Durkin, Karen (2007)[2] reflects on the relevance of the vision shared by businesspeople to create a life that inspires them and offers a business experience that is more fulfilling and less draining. She describes the realization of such a vision to become a plan of action. She enumerates the challenges faced by new businesspeople, such as *inventory management* and employee hiring. The author also emphasizes the importance of having a clear plan for one's envisioned business.

Tyndall, Fiona (2007)[3] in an interview with David Jones (DJS) CEO Mark McInnes is presented. McInnes discusses the goal of the company which is to earn after-tax profit growth through the economic cycle. It cites that the company expects a favorable retail condition. When asked about the maintenance of targeted gross margin levels of the company, McInnes elaborated the capability of the company to enhance *inventory management* and control.

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[1] Edward A. Silver (1981), "Operations Research", *Operations Management*, Vol. 29 No. 4, pp. 628-645, *Jul. - Aug., 1981.*

[2] Durkin, Karen (2007), "Life business for the making", *Las Vegas Business Press*, Vol. 24 No. 30, pp21-21, *Jul. 2007.*

[3] Tyndall, Fiona (2007), "CEO Hot Seat", *AFR Smart Investor*, Vol. 2 No. 7, pp69-71, Jul. 2007.

De Vries (2007)[4] discusses that although many studies have addressed the diagnosing of *inventory* systems, the field of operations *management* still seems to lack a systemized and integrated approach towards analyzing *inventory management* systems. In this article, a contribution is made to fill this gap by proposing a conceptual framework that has been developed during the past 5 years and which aims at being supportive in assessing and redesigning *inventory management* systems. The underlying assumption of the framework is that companies can benefit from explicitly addressing an *inventory management* concept, which includes an assessment of the physical infrastructure of the *inventory* system, the planning and control structure, the information architecture as well as the organisational embedding of the *inventory* system. Applications of the approach advocated in this article show that companies often apply a one-dimensional approach regarding their *inventory management* system. Moreover, our case studies indicate that the process of addressing an *inventory management* concept may help to make interests and power of relevant stakeholders explicit.

Jammernegg, Werner, Reiner, Gerald (2007)[5] This study discusses the opportunities and challenges for improving the performance of supply chain processes by coordinated application of *inventory management* and capacity *management*. We illustrate our approach by a supplier company in the telecommunication and automotive industry (tier 2), where a manufacturer (production facility) is located in a country with low labor costs and high worker deployment flexibility. Using process simulation, we demonstrate how the coordinated application of methods from *inventory management* and capacity *management* result in improved performance measures of both intraorganizational (costs) and interorganizational (service level) objectives.

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[4] De Vries (2007), "Diagnosing inventory management systems: An empirical evaluation of a conceptual approach" , *International Journal of Production Economics*, Vol. 108 No. 1/2, pp63-73, Jul. 2007.

[5] Jammernegg, Werner, Reiner, Gerald (2007), "Performance improvement of supply chain processes by coordinated inventory and capacity management", *International Journal of Production Economics*, Vol. 108 No. 1/2, pp183-190, Jul. 2007.

Bendoly, Elliot; Blocher, Doug; Bretthauer,Kurt M. Venkataramanan, M.A.(2007)[6] Traditional "Brick-and-Mortar" operations face the challenge of adapting to a new set of competitive rules made necessary by consumers who want the option of ordering electronically via the Internet. To satisfy these customers, firms must develop strategies that integrate their standard retail in-store channel with this relatively new on-line channel. Therefore, this research is designed to provide insights into supply chain *inventory management* strategies relevant to "Clicks-and-Mortar" firms trying to satisfy both on-line and in-store sales. Specifically, this work considers the total cost implications of various *inventory* allocation strategies while maintaining target customer service levels. Analysis focuses on the development of models capable of handling new operating strategies made possible by electronic commerce. The implications of *inventory* risk pooling are considered in depth, revealing the existence of characteristics that determine whether completely centralized or decentralized policies are preferable.

Mutschler, Ann Steffora(2007)[7] The article reports on the decision of Migdal Haemek, Israel-based specialty foundry Tower Semiconductor Ltd. to reduce supply chain costs by $15M over 3 years. The move is aimed at integrating advanced capabilities in logistics, engineering and support services along with implementing *inventory management* of spare parts for Tower's manufacturing tools. Tower reiterated that the move is also expected to improve spare parts availability, which may result in increased manufacturing capacity and reduction of its *inventory* level.

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[6] Bendoly, Elliot; Blocher, Doug; Bretthauer,Kurt M. Venkataramanan, M.A.(2007), "Service and cost benefits through clicks-and-mortar integration: Implications for the centralization/decentralization debate", *European Journal of Operational Research,* Vol. 180 No. 1, pp426-442, Jul. 2007.

[7] Mutschler, Ann Steffora (2007), "Tower to reduce supply chain costs by $15M over 3 years", *Electronic News*, Vol. 52 No. 35, pp9-9, Aug. 2007.

Yu, Wooyeon, Egbelu, Pius J (Jan2008)[8] observed cross docking is a warehouse *management* concept in which items delivered to a warehouse by inbound trucks are immediately sorted out, reorganized based on customer demands, routed and loaded into outbound trucks for delivery to customers without the items being actually held in *inventory* at the warehouse. If any item is held in storage, it is usually for a brief period of time that is generally less than 24hours. This way, the turnaround times for customer orders, *inventory management* cost, and warehouse space requirements are reduced.

1.3. STATEMENT OF THE PROBLEM:

1. In the study, efforts have been made to conduct a detailed analysis of inventory management functions in Roots Industries Ltd.
2. Hence the researcher focuses the Inventory management of the organization and it's impact on the working capital as a research problem to be studied upon.

1.4.OBJECTIVES OF THE STUDY:

The present study is made for the following objectives:

Primary Objective:

- To study about the inventory management of the organization.

Secondary Objectives:

- To study the efficiency in usage of inventory of the organization
- To make a comparative study for the past five years.
- To give suggestions to improve the inventory management of the organization.

[8] Yu, Wooyeon, Egbelu, Pius J (2008) "Scheduling of inbound and outbound trucks in cross docking systems with temporary storage", *European Journal of Operational Research,*, Vol. 184 No.1, pp377-396, Jan2008.

1.5. SCOPE OF THE STUDY:

The present study is confined to the analysis and interpretation of published financial statement viz., the Balance sheet and the Income statement. The technique employed for the purpose of the study is Ratio Analysis. The study is meant to throw the light on the inventory management of Roots Industries Limited.

1.6. METHODOLOGY:

The present study is undertaken on the basis of the sources available from the Annual reports published by the company. The relevant ratios have been computed with the help of accounting figures obtained from the financial statements such as profit and loss account and Balance sheet.

1.6.2. Type of study:

- The research design is analytical in nature.
- Analytical study is a system of procedures and techniques of analysis applied to quantitative data. It may consist of a system of mathematical models or statistical techniques applicable to numerical data.

1.6.3. Method of data collection:

The nature of data was secondary data source pertaining to annual reports of the company. The data collected has been complied with care for the purpose of study.

1.6.4. Tools for analysis:

The major tool used to analyze the data collected is ratio analysis which is a widely used management accounting technique in financial performance analysis.

1.6.5. Period of study:

The study on inventory management relates to the period of five financial years (i.e.) from 2001-2002 to 2005-2006.

1.7. LIMITATIONS:

- The study is based on the secondary data. So the reliability of the data may not be accurate.
- The study is limited to 5 years.

1.8. CHAPTER SCHEME:

The FIRST CHAPTER is introductory in nature. This chapter tells about the objectives and scope of the study and its limitations.

The SECOND CHAPTER conveys about the history of the ROOTS INDUSTRIES LTD., highlights the origin and development, objectives and production, financial and working of the company, development programmes and collaboration with foreign countries of the company.

The THIRD CHAPTER gives the macro and micro scenario with respect to the auto component industry.

The FOURTH CHAPTER presents the data analysis and interpretation.

The FIFTH CHAPTER gives summary of findings and concludes the study with relevant suggestions.

Organisation Profile

CHAPTER - 2

ORGANISATION PROFILE

Roots' single minded pursuit of enhancing the quality of life has led to many other diversifications. Roots, today, is a multifaceted corporate entity with interests in automobile accessories, cleaning equipment, castings, precision tools, hi-tech engineering services, healthcare and education.

In a dynamic world that is driven by technology, a successful presence depends on the way you mould that technology to fit popular needs. "Indigenous talent, a daring attitude, courage to accept and learn new things... and the simple spark of an idea. " That is the genesis of ROOTS.

2.1. HISTORY OF THE ORGANIZATION:

ROOTS Industries Ltd. is a leading manufacturer of Horns in India and the 11th largest Horn Manufacturing Company in the world.

It is headquartered at Coimbatore in South India. ROOTS has been a dominant player in the manufacture of Horns and other products like Castings and Industrial Cleaning Machines.

Since its establishment in 1970, ROOTS has had a vision and commitment to produce and deliver quality products adhering to International Standards.

With a strong innovative base and commitment to Quality, Roots Industries Limited has occupied a key position in both international and domestic market as suppliers to leading OEMs and after market. Similar to products, Roots has leading edge over competitors on strong quality system base.

RIL has entered into technical collaboration with Robert Bosch, SA to further enhance the technical competence. Roots' vision is to become a world class company manufacturing world class product, excelling in human relation.

2.1.2. THE ROOTS GROUP

Roots Industries Limited	Electric Horns
Roots Auto Products Private Limited	Air Horns, Switches & Controll
Roots Multiclean Limited	Cleaning Machines
Roots Cast Private Limited	Aluminium & Zinc Pressure Die Cast
Roots Precision Products	Dies, Tools, Jigs & Fixtures
Roots Digital Engineering Services Private Limited	Digital Engineering Services
Roots Metrology Laboratory	Instrument Calibration, Quality System, Consultancy
Roots Polycraft	Plastic components
R K Nature Cure Home	Nature Cure Therapy, Yoga & Massages
Satchidananda Jothi Nikethan	International School
Crystal Clean Care	Cleaning Techniques
Roots Industries Malaysia Sdn. Bhd.	Electric Horns

MILESTONES

1970	Promotes American Auto Service for manufacture of Electric Horns.
1972	First to manufacture Servo Brakes for Light Motor Vehicles.
1984	Roots Auto Products Private Limited was established to manufacture Air Horns. Die Casting Unit commences commercial operations.
1988	Polycraft, a unit for Plastic Injection Moulding was established.
1990	Roots Industries Private Limited takes over Electric Horn business.
1992	RMCL enters into Techno-Financial collaboration with M/s. Hako Werke GmbH, Germany.
1992	Roots Industries Private Limited obtains the National Certification – ISI mark of quality.
1994	Production of floor cleaning equipment commences. Roots Industries Private Limited wins American International Quality Award.
1999	Becomes the first horn manufacturer in Asia to obtain QS 9000
2000	Becomes the first horn manufacturer in Asia to obtain VDA 6.1 and the first in the world to win ISO / TS 16949
2000	The first to introduce digitally controlled air horns and low frequency, low decibel irritations free Jumbo Air Horns.
2003	Roots Industries Ltd., Horn Division is accredited with ISO 14001 : 1996
2003	Roots Industries Ltd., upgraded its ISO / TS 16949 from 1999 version to 2002 version
2004	Roots Industries Limited (RIL) opens its 100% exclusive Export Oriented Unit at their Horn Division, Thoppampatti, Coimbatore to cater the needs of Ford North America.

2004 RIL's EOU commences its supplies to Ford, North America

2004 Roots Multiclean Limited (RMCL) inaugurates its 100% EOU Plant at Kovilpalayam, Coimbatore

2004 Roots Cast Private Limited (RCPL) inaugurates its Unit II at Arugampalayam, Coimbatore

2004 Roots Auto Products Pvt Ltd (RAPPL) expands with its Machining Division at Arugampalayam, Coimbatore

2004 RIL successfully launches its Malaysian Plant

2004 The group company American Auto Service is accredited with ISO 9001 : 2000

2005 Roots Industries Ltd., is certified with MS 9000, a pre-requisite for Q1 award for Ford Automotive Operations Suppliers. Focus on Systems and Processes

2006 Roots Metrology & Testing Laboratory has been accredited by National Accreditation Board for testing & calibration in the field of Mechanical – Linear & Angular

2005 Roots Industries Ltd., is awarded Q1 by Ford Motor Company

2005 Roots Industries Ltd., Horn Division upgraded its ISO : 14001 from 1996 version to 2004 version

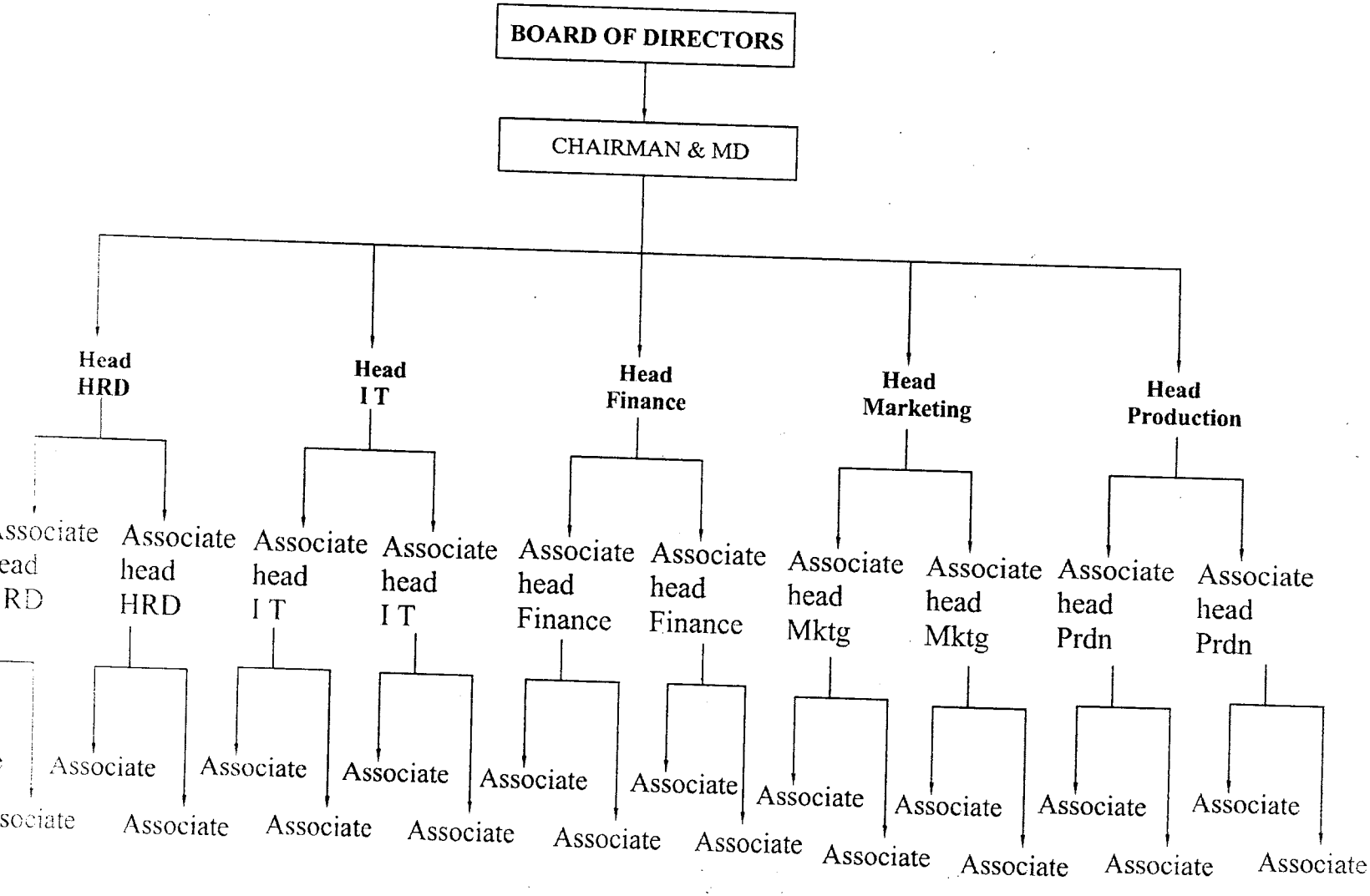
2.2. MANAGEMENT:

ROOTS Industries Ltd., is managed by an excellent team of path-breakers, chief among them being the Chairman, Mr. K. RAMASWAMY, a Master's Degree Holder in Automobile Engineering from Lincoln Technical Institute, USA.

The company credo is echoed in his own words, "At ROOTS, we believe that if something is worth doing, it is worth doing well. And this attitude is reflected in every realm of our activities. As a customer, you naturally expect the best. We are fully geared, in spirit and method, to meet your requirements."

He is supported by technical and administrative people, experts in their own field, who together strive to maintain the highest quality quotient in all of ROOTS' products.

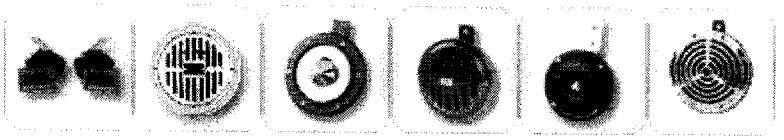
RGANIZATIONAL STRUCTURE:



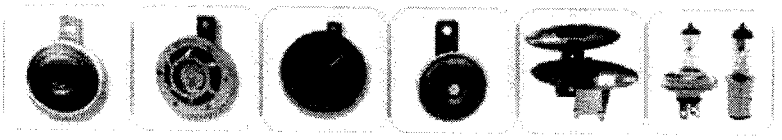
2.4. PRODUCTS PROFILE:

2.4.1. Roots Industries Limited -Electric Horns:

Indian automobile market responded well and soon the global market too followed suit. Roots horns, in a very short span of time, got a place of pride in millions of vehicles across the globe.



Windtone Vibrosonic Cleartone Bosch Range Roots 90 Megasonic

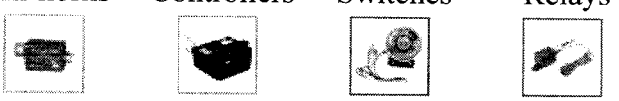


Smartone Spider FSA2 R 70 Sensors

2.4.2. Roots Auto Products Private Limited-Air Horns, Switches & Controllers:

Roots Auto Products Private Limited (RAPPL), the largest supplier of Air Horns in India caters to the needs of several OEMs: Ashok Leyland, Caterpillar India and JCB Escorts. Roots Air Horns also find a place of pride in Passenger vehicles, Trucks, Earth Moving equipment, Material Handling equipment, etc.

Air horns Controllers Switches Relays

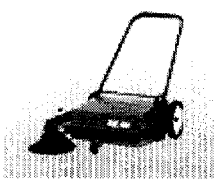
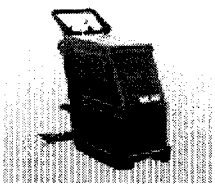
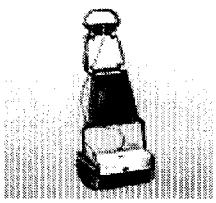
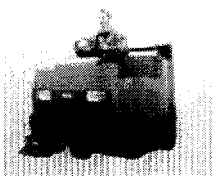
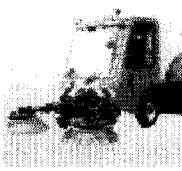
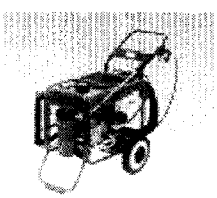
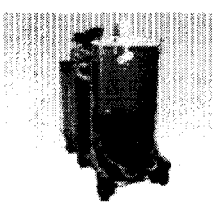
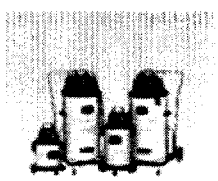
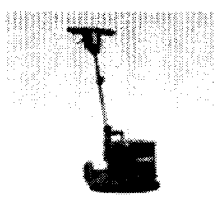
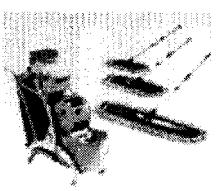


Electronic Flashers Melody Maker Security System Mobile Charger

2.4.3. Roots Multiclean Limited-Cleaning Machines:

The genesis of Roots Multiclean Ltd., (RMCL) is due to the vision of the promoter of Roots group of company about the requirement of sophisticated cleaning equipment in the country following globalization of business and entry of Multi Nationals who have very high standard of house keeping. RMCL, situated in the suburbs of Coimbatore, is a Joint Venture with Hako Werke Gmbh & Co., Germany.

Industrial Vacuum Cleaners and Other Cleaning Equipment

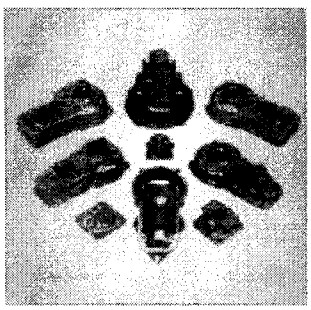
Sweepers	Scrubber-Driers	Floor Washing Machines	Ride-on-Scrubber	Ride-on-Sweeper	City Master
					
					
High Pressure Jet Cleaners	Extra Heavy Duty Industrial Vacuums	Industrial Vacuum Cleaners	Single Disc Machines	Janitorial Range	

2.4.4. Roots Cast Private Limited-Aluminum & Zinc Pressure Die Cast:

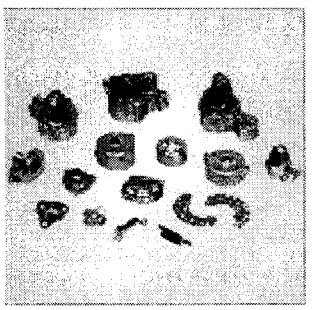
Roots Cast Pvt. Ltd., (RCPL) (formerly known as Aruna Auto Castings Private Limited) was established in 1984 to meet the captive requirements of the Roots group.

RCPL now has established itself as a major player in the die cast component manufacturing. RCPL supplies machined castings and sub-assemblies as per customer requisitions.

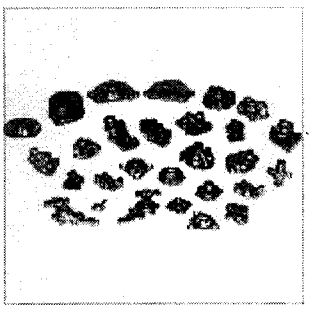
PRODUCT RANGE



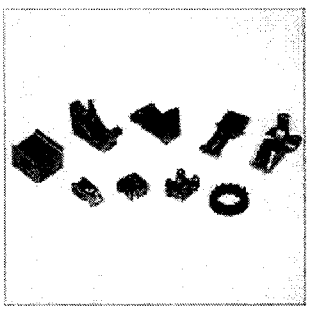
RSV Governor hsg for Fuel Injection Pump



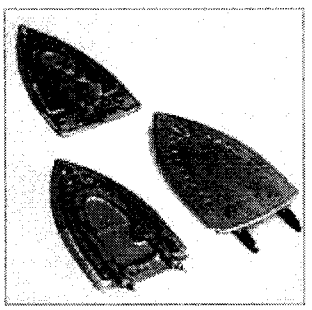
Heat-Sink For Alternator



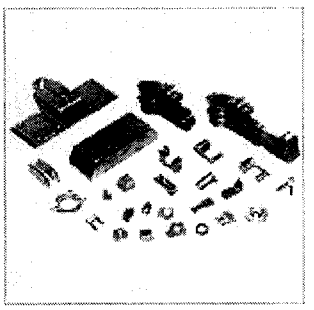
Pump body and Pump body cover



Fixing Bracket For Car-starter



Steam & Dry Iron Sole plates For Electric Iron



Ring Holder For Ring Frame

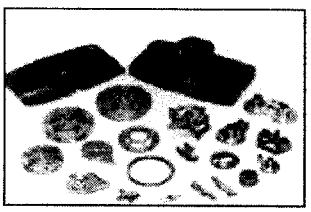
2.4.5. Roots Precision Products-Dies, Tools, Jigs & Fixtures:

Roots Precision Products was established in 1987 to address the in-house tooling needs of the diverse industries in Roots group.

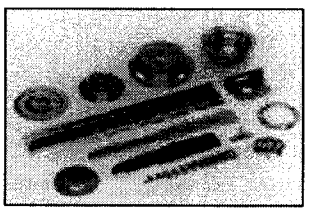
Specialized in design and manufacture of:

- Press tools
- Injection moulds
- Die-casting dies
- Jigs and fixtures

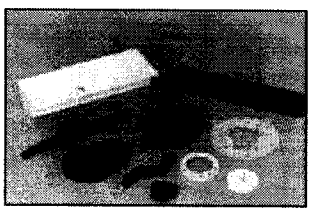
Die Casting Dies



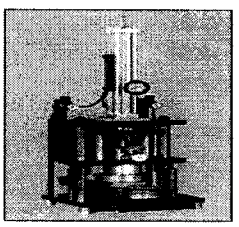
Press Tools



Engineering Plastic Moulds

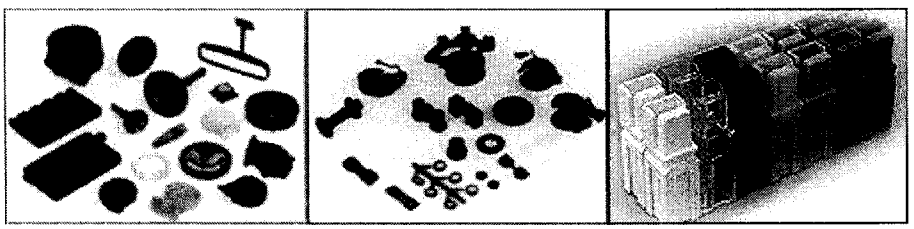


Jigs & Fixtures



2.4.6. Roots Polycraft-Plastic components:

Roots Polycraft (PC) manufactures precision plastic components. It is equipped with latest microprocessor injection moulding machines to maintain consistent process parameters. It manufactures small and medium size components for Automotive, Pump, Textile, and Medical Industries besides meeting the captive requirements of Roots Group.



COMPONENT RANGE...

2.4.7. Crystal Clean Care-Range of Modern Cleaning Techniques:

Floors need intensive periodic cleaning to stay germ free, dirt free, infection free. CCC undertakes specialty cleaning services like

* Floor Scrubbing / Polishing

* Carpet shampooing

* Glass cleaning

* Upholstery shampooing

2.5. MARKET POTENTIAL:

Roots Industries specializes in the manufacture of a wide range and line-up of automobile horns. Roots is a leading supplier to all the major vehicle manufacturers like Ford, Daimler Chrysler, Mitsubishi Lancer, Mahindra & Mahindra, Toyota, Tata Motors, Fiat Uno and Siena, TELCO, TVS Motor Company, Kinetic Honda, etc.

The core competence coupled with synergistic effect of system and product quality improvement has attracted reputed customers like Philips, DAP, MICO, LMW, Lucas-TVS, Pricol, TIL etc. to name a few. RCPL – made automobile precision components are exported to UK, and textile components, to Germany.

2.5.2. ROOTS SPREAD BEYOND BORDERS

Roots products have successfully made their presence heard loud and clear in the global market. Roots horns are exported to over 15 countries worldwide. A major share of the exports goes to USA, Japan, Middle East and South America.

Roots is the only Indian company that meets the demanding standards of the Japanese markets. Roots cleaning equipment and die cast parts, etc. are exported to USA, Europe, Australia, Japan, Far East, South America and several other advanced countries.

2.6. COMPETITIVE STRENGTH OF THE COMPANY:

Roots is a leading Original Equipment supplier to major vehicle manufacturers like Mercedez Benz, Mitsubishi, Mahindra & Mahindra, Toyota, Fiat, TELCO, TVS, Kinetic, etc.

The technical collaboration with Robert Bosch S.A. of Spain starting from 1995 has strengthened the R&D activities and increased Roots' technical competence to international standards.

Roots Multiclean Ltd. (RMCL) is a joint venture with Hako Werke GmbH & Co., Germany, one of the largest cleaning machine manufacturers with global operations.

RMCL is the sole representative in India and SAARC countries for Hako Werke's entire range of cleaning equipment. The quality of RMCL products is so well established that Hako buys back a major portion for their global market.

RMCL also represents several global manufacturers of cleaning products and is gearing itself up to provide customized, total cleaning solutions.

2.7. DESCRIPTION OF VARIOUS FUNCTIONAL AREAS:

2.7.1. Finance Department:

Finance is the life blood of business. Finance is that activities which is concerned with acquisition and conversion of capital funds in meeting the financial needs and over all objectives of business enterprises. The main function of this department is to provide finance to various departments. The finance department is controlled by the finance manager.

The turnover of the company in 2006 is Rs.70 cores. There are 25 employees in finance department. The export rate is 15.20% for calculating depreciation both straight line method and written- down method is used for income-tax the depreciation is calculated using the written-down method.

Advertisement Cost:

In 1993 the advertising cost is 15%, now the advertisement cost is only 1%.

Provident Fund:

About 12% is taken for provident fund from the salary of the employees. The company will provide 12% separately totally 24% is paid after retirement.

Payments:

Payments are made by cheque if that payment is greater than Rs. 1500.

Software Used:

SAP has been recently implemented.

Bankers:

The bankers of roots are Citi Bank, State Bank of India, Canara Bank, Punjab National Bank, ICICI Bank, HDFC Bank

Accounting Policies of the Company:

1. **Fixed Assets:**

   Fixed assets have been shown at cost and interest on Term loan upto date of commissioning has been capitalized.

2. **Valuation of inventory:**
   i. Raw materials and bought-out components have been valued at cost or at net realized value whichever is lower.
   ii. In-house fabricated components have been valued at respective raw materials cost and fabrication changes whenever identifiable.
   iii. Finished goods and Bought-out items are valued at lower of cost or net realizable value.
3. **Depreciation:**

   Depreciation has been changed at the rate of specified under schedule 14 of the companies' act 1956.

4. **Revenue Recognition:**

   Revenue has been accounted on the accrual basis.

5. **Investment:**

   Investment has been shown at cost.

2.7.2. Purchase Department:

Proper buying of material and merchandise are of great importance in any business. If the raw materials is not of requisite quality the cost of production would rise profit in decline quality of finished products may go down etc.

If raw materials are purchased in excess requirement there is an unnecessary tie-up of working capital with loan of interest incurring of storing and safe guarding expense the risk of obsolescence and decoration of raw material is more.

Hence Roots industries Ltd takes careful steps in purchasing from the materials of right time adequate quantity and right quality.

Purchase Procedures:

- Bill of materials.
- Vendor.
- Evaluation.
- Team of Engineers.
- Freeze the vendor.
- Risk enquiry.
- After evaluation.
- Purchase order.

Supplier:

There are 250 vendors all over India. The vendor supplies 4000 components based on the 5 product range.

2.7.3. Stores Department:

The main function of stores department is to keep track of purchase and issues of various components used in manufacturing process. The horn division of the company receives the components division. The component received our started systematically on shelves racks and bins each of which as bin could to keep up tract of issues followed in the first in first out method.

Stores Procedure:

- Sub component inwards.
- Waiting for inspection.
- Quality is checked.
- Material part no and bin card is issued
- Material issue note.
- Supply to assembly.

Identification Tags:

1. Green – Accepted
2. Red – Rejected
3. Yellow – Condition accepted
4. White – Non conformities
5. Blue – Rework/ segregation

2.7.4. Export Department:

The company has shown a tremendous growth in the export sector too, the turnover has increased from INR 4 million to 35 million in a span of 4 years due to its quality and performance coupled cost efficiency. The firm has been participating in Auto mechanika since 1992 and Auto Expo 1993 at New Delhi in order to expand there export division.

One of the joint moves the company has tied up with British company to produce inflatable jacks, the company has also acquired the European Homologation approvals for its EC/ECE countries to enter in these markets. Roots have entered into a technical collaboration with Robert Bosch S.A this move will help them increase their production capacity to 3 million horns per annum. M/s Owaw & co, Japan, one of the largest industrial groups in that country has chosen Roots for their tie- up arrangement to manufacture their J-Horns for Japanese market. Export to more than 15 countries like Germany, Australia, Italy, Japan, USA, Spain, Singapore, France, Brazil, UAE, Korea, U.K, and South Africa.

2.7.5. IT Department:

Today businesses are continuously trying to increase productivity and efficiency, reduce cost of production. For this technology is used to expand the existing, market and creates new markets. This is developed to the development and use of hardware, software, firmware and procedures associated with this processing. General Manager Mr. O.A. Balasubramaniam heads this department.

Software used at Roots:

- Earlier FoxPro package was used.
- Intranet facility accessible to all authorized officers with a very effective package called LOTUS NOTES the means of the communication through fiber optic cables.

This package included the mailing facility among the 170 employers. In the organization and also it have the options of reservation of rooms for their meeting, to know the status of the room etc, QMS documents are available and it's being view by all the employers but the information can't be altered them .Only the authorized officers can change them.

They use the ERP which has different models where by they are customized.

2.7.6. Marketing Department:

Marketing Management communication system:

Two kinds of communication system are followed.

- Communicating within the organization between various departments and other sources.
- Communicating with the field representatives in respective zones.

Marketing Research activities:

Surveying method is followed through representatives of respective zones to find out the reach of the product. Intermediaries, the purpose of this survey process quality check, warranty providence, regulation of services for defective product etc, are done while research activities are carried out.

2.7.7. Production Department:

Orders are received from the marketing department. Since it is the marketing department that receives the orders for manufacturing the products from the management, soon after receiving the orders from their customers, and processing of the orders is done accordingly by the production department.

Production System:

Batch type of production system is followed. Ordered products are monitored by purchase department and the raw materials required for that are received and processed so as to deliver the products at the required quantity on a required data.

2.7.8. HRD:

Roots has a strong people-oriented work culture that can be seen and felt across all its member concerns. Whether they work in group or in isolation, their effort is well appreciated and achievements well rewarded. They have a sense of belonging and they revel in an environment of openness and trust. Cross-functional teams function as one seamless whole and foster the true spirit of teamwork.

Roots as a learning organization systematically trains its employees at all levels. Conducted in-house, the training programmes equip them to meet new challenges head on. Employees are encouraged to voice their feelings, ideas and opinions. There is a successful suggestion scheme in operation and best suggestions are rewarded.

Macro-Micro Analysis

CHAPTER – 3

MACRO-MICRO ANALYSIS

Companies that manufacture and/or distribute vehicles, including passenger cars, trucks, locomotives, motorcycles, commercial ships, pleasure boats, and/or recreational vehicles is called as auto parts industry.

3.1. Macro Analysis:

The auto parts industry directly influences the economies of the United States and the world. In a typical year, the U.S. auto parts industry generates around 17 percent of manufacturers' shipments of durable goods (products designed to last at least three years). Auto parts production consumes large amount of iron, steel, aluminum, and natural rubber. The automobile industry also consumes more copper, glass, zinc, leather, plastic, lead and platinum than any other U.S. industry. In 1997, U.S. retail sales of auto parts exceeded $284 billion, 3.5 percent of the nation's gross domestic product.

The U.S. auto parts industry has experienced strong job growth. In 1996, the auto parts industry accounted for 9 percent of all U.S. jobs producing durable goods, the highest level since 1979. Auto parts production workers earned compensation totaling $13.4 billion—a nearly 50 percent increase since 1990—and equal to 14 percent of the total paid by all manufacturers of durable goods. Sales of U.S. auto parts to Americans are expected to remain near the same level in the future, with about 1 to 2 percent growth per year, while foreign markets are expanding at rates that are two, three, and even ten times faster. Because exports will be essential to expanding the auto parts industries, U.S. trade officials have negotiated trade agreements such as the Memorandum of Understanding with Korea (1993), the North American Free Trade Agreement (N A F T A, 1994), and the U.S. -Japan Automotive Framework Agreement (1995). These and other agreements have increased auto parts and other exports to Japan, Mexico and Korea many times over.

In 1994, the United States successfully promoted the Uruguay Round of the General Agreement on Tariffs and Trade (GATT), which helped American auto export potential because it improved access to both major and developing markets. These initiatives have helped the U.S. Automotive industry achieves the highest level of exports on record. Between 1993 and 1996, shipments abroad of motor vehicle increased 36 percent and U.S. automotive parts exports increased 28 percent. The value of motor vehicle and parts exports reached $47.4 billion in 1996, up 7 percent from the previous year.

Micro Analysis

India is the Largest Three Wheeler Market in the World, 2nd Largest Two Wheeler Market in the World, 4th Largest Passenger Vehicle Market in Asia, 4th Largest Tractor Market in the World, and 5th Largest Commercial Vehicle Market in the World. So, all vehicles need safety part of air horns, electric horns, etc.

Future Economic Drivers

- High GDP growth rate
- India's huge geographic spread –Mass Transport System?
- Increasing Road Development, Golden Quadrilateral
- Increasing disposable income with the service / rural agriculture sectors
- Cheap & easy financing schemes
- Replacement of aging passenger and commercial vehicles
- Graduating from motorcycles to passenger vehicles
- Growing Concept of Second Vehicle in Urban Area

Standing tall

The auto component sector is on a growth trajectory as is evident by the fact that auto components have been designated as a "Thrust Sector" by the Government of India

under the EXIM Policy. The Indian Department of Commerce is now set to aggressively promote export of auto components through a specific sectoral strategy.

The size of the global auto component industry is $1.2 trillion with most of it located in high cost countries. Global purchases of components by international vehicle manufacturers are currently estimated to be $45 billion. However, the role of outsourcing is constantly increasing.

Furthermore, the problem of high rejection rates which plagued the domestic auto ancillary industry has been overcome. This is reflected in the number of overseas deals concluded by the domestic industry amidst stiff competition from other Asian countries.

The government has extended various fiscal incentives and policy measures which too has helped the industry.

Trends of Automobile Components

Critically, outsourcing of automobile components that have relatively high engineering and design content from suppliers in low cost countries like India, is rapidly gaining momentum. It is estimated that in the next 10 years the auto components industry will reach $33-40 billion.

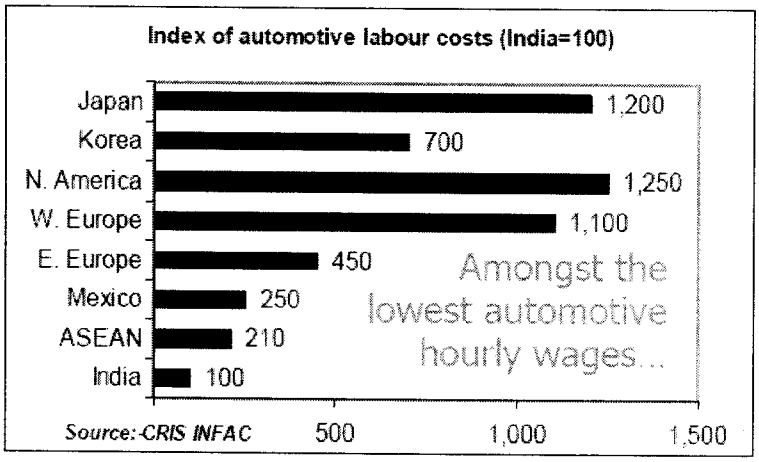
Going by the current trends in the domestic automotive industry and as stated above, it is expected that the indigenous demand for auto components will also reach $13-15 billion in the next 10 years and about USD 20-25 billion would be exported. To meet the combined demand from domestic and international customers the industry will have to make significant incremental investment.

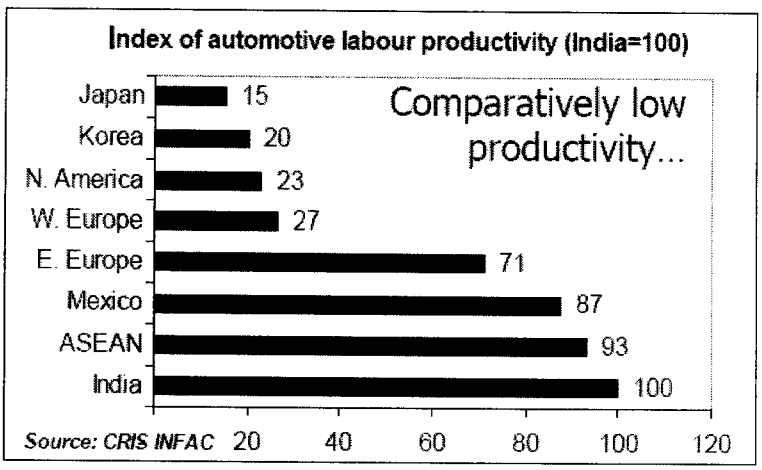
Hence, the Indian auto component industry is poised to achieve a prominent position in the global market and will in all probability be a major driver of growth and employment in the domestic economy.

Considering the recent figures, whereby domestic demand is increasing by about 15 per cent over the previous year and exports by over 25 per cent, the above estimates, while undoubtedly challenging, appear achievable.

To conclude, the auto-components sector in India appears well revved up to speed on from here on the success-track.

Among the best in labour economics India





Opportunity to source from India

- There is a growing demand for auto components
- Total production '2004: Approx. $ 6.73 billion
- Exports '2004: Approx. $1.4 billion. (CAGR of 19% -last 6 yrs)
- In the next 10 years the auto components industry will reach $33-40 billion.(Estimate)
- Indigenous Demand : $13-15 billion
- Export Demand : $20-25 billion

Hence the automobile components industry has bright future in India.

Roots standard with this trend:

Roots group of companies is well known all over the world. They specialize in manufacturing horns and major establishment stand as their customers. With due concern towards maintaining and improving the quality of life, roots is pollution and conserving resources. This will be achieved through continual improvement in environmental

awareness of all employees and associate legal compliance and objective towards environmental protection.

With its new vibrating horns taking the market by storm the company currently holds the no.1 position in the market. In 1978 – 1979, the sales figure was 3600 horns but it has touched 1.5 million horns in 1996 – 1997. This shows the recognition of the company as the pace setter in the automobile industry and its segments. The company today is the leading supplier to Original Equipments Manufacturers such as Hindustan Motors, Premier Automobiles, TELCO, Mahindra & Mahindra, Suzuki, UNO, Rover, and Hero Honda.

Export Division

The company has shown a tremendous growth in the export sector too, as the turnover has increased from 4 million to 35 million in a span of years due to its quality and performance coupled with cost efficiency.

Data Analysis & Interpretation

CHAPTER – 4

DATA ANALYSIS AND INTERPRETATION

4.1. Inventory Turnover Ratio:

It is an evaluation of the liquidity of inventory and adequacy of inventory controls. This ratio indicates whether investment in inventory is efficiently used or not and the rapidity with which the inventory is turned over. The higher the ratio the more efficient will be the management of a firm.

$$\text{Inventory turnover ratio} = \frac{\text{Cost of goods sold}}{\text{Average inventory}}$$

TABLE 4.1

INVENTORY TURNOVER RATIO

YEAR	COST OF GOODS SOLD (in rupees)	AVERAGE INVENTORY (in rupees)	RATIO (times)
2001-2002	24,07,70,243	3,60,27,875	6.68
2002-2003	23,83,51,785	3,17,86,994	7.50
2003-2004	30,79,86,767	2,95,04,809	10.44
2004-2005	39,19,31,386	4,06,21,989	9.65
2005-2006	58,65,99,781	6,53,03,968	8.98

Source: - Secondary data.

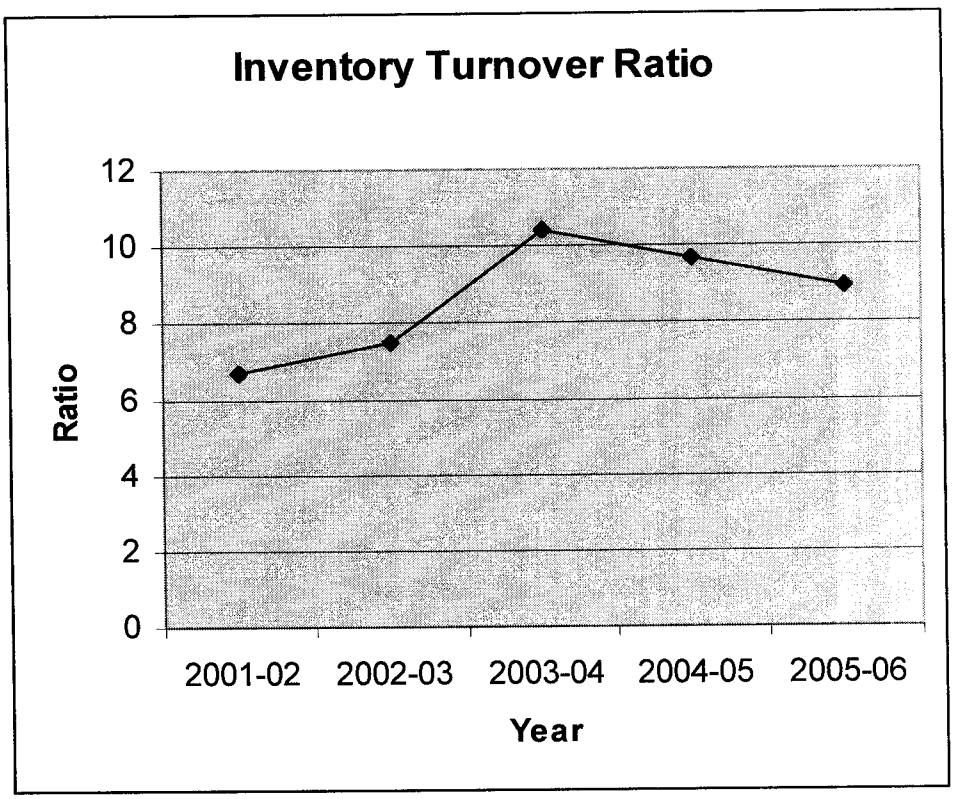
Interpretation:

From the above calculated value 10.44 is the highest. The next highest value is 9.65, 8.98 and 7.50. The least value is 6.68 which mean the proportionate of cost of goods sold to average inventory is minimum. Thus after this stage they have increased their inventory value to increase the ratio.

Inference:

The inventory turnover ratio is increasing for the first three years showing that the liquidity position of inventory is in a satisfactory level and so is the adequacy of inventory controls. It shows a decreasing trend in the last two years, the investment in inventory has not been utilized efficiently as compared to that of the average 8.65 times. The higher the ratio the more efficient will be the management of a firm.

FIGURE 4.1


Inventory Turnover Ratio
Ratio
12
10
8
6
4
2
0
2001-02
2002-03
2003-04
2004-05
2005-06
Year

4.2. Inventory to Sales Ratio:

This ratio explains the variations in the volume of investment in inventories with the volume of sales. It shows the increase or decrease in the level of inventory which may be due to higher stock, inventory speculation or simply stocking in anticipation of almost certain surge or others.

$$\text{Inventory to sales} = \frac{\text{Inventory}}{\text{Sales}}$$

The term inventory means the total of all the items of inventories namely, raw materials, work-in-progress, finished goods and stores and spares.

The ratio of inventory to sales is shown in the table:

TABLE-4.2

INVENTORY TO SALES RATIO

YEAR	INVENTORY (in rupees)	SALES (in rupees)	RATIO (times)
2001-2002	3,60,27,875	27,29,57,438	0.13
2002-2003	2,75,46,112	26,84,69,387	0.10
2003-2004	3,14,63,506	34,67,58,601	0.10
2004-2005	4,97,80,471	44,12,93,508	0.11
2005-2006	8,08,27,464	57,41,68,980	0.14

Source: - Secondary data.

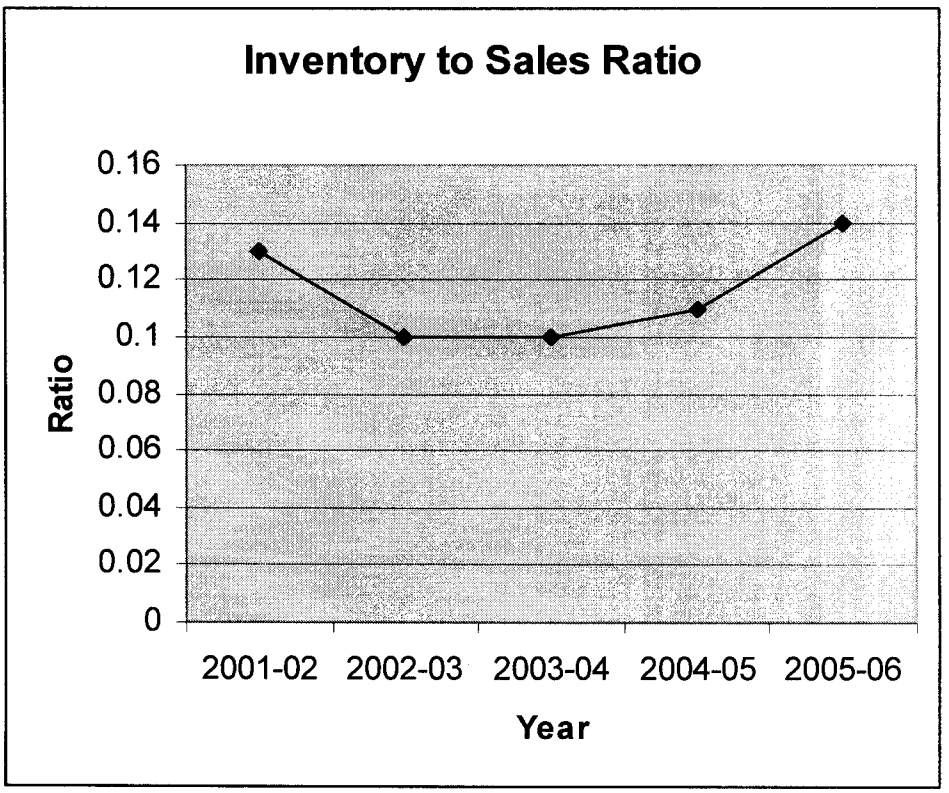
Interpretation:

From the above calculated value 0.14 is the highest. The next highest value is 0.13, and 0.11 times of the sales. The least value is 0.10 which means the proportionate of the inventory to sales is minimum. Thus after this stage they have increased their inventory value to increase the ratio.

Inference:

The level of investment in inventory as compared to sales for the year is approximately 0.10 times sales of the year. It has got an increasing trend for last three years. It suggests that the current assets tied up in inventories are very low and the rate of return is more.

FIGURE-4.2


Inventory to Sales Ratio
Ratio
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
2001-02
2002-03
2003-04
2004-05
2005-06
Year

4.3. Ratio of Sales to Inventory:

This ratio indicates the volume of sales in relation of the amount of capital invested in inventories. When inventory for a company is larger in relation to sales the company's rate of return is less since it has more working capital tied up in inventories than has the company with a higher ratio.

$$\text{Sales to inventory ratio} = \frac{\text{Annual net sales}}{\text{Closing inventory}}$$

The Roots Industries Limited has maintained the sales to inventory ratio in the following manner:

TABLE-43

SALES TO INVENTORY RATIO

YEAR	NET SALES (in rupees)	CLOSING INVENTORY (in rupees)	RATIO (times)
2001-2002	27,29,57,438	3,60,27,875	7.58
2002-2003	26,84,69,387	2,75,46,112	9.75
2003-2004	34,67,58,601	3,14,63,506	11.02
2004-2005	44,12,93,508	4,97,80,471	8.86
2005-2006	57,41,68,980	8,08,27,464	7.10

Source: - Secondary data.

Interpretation:

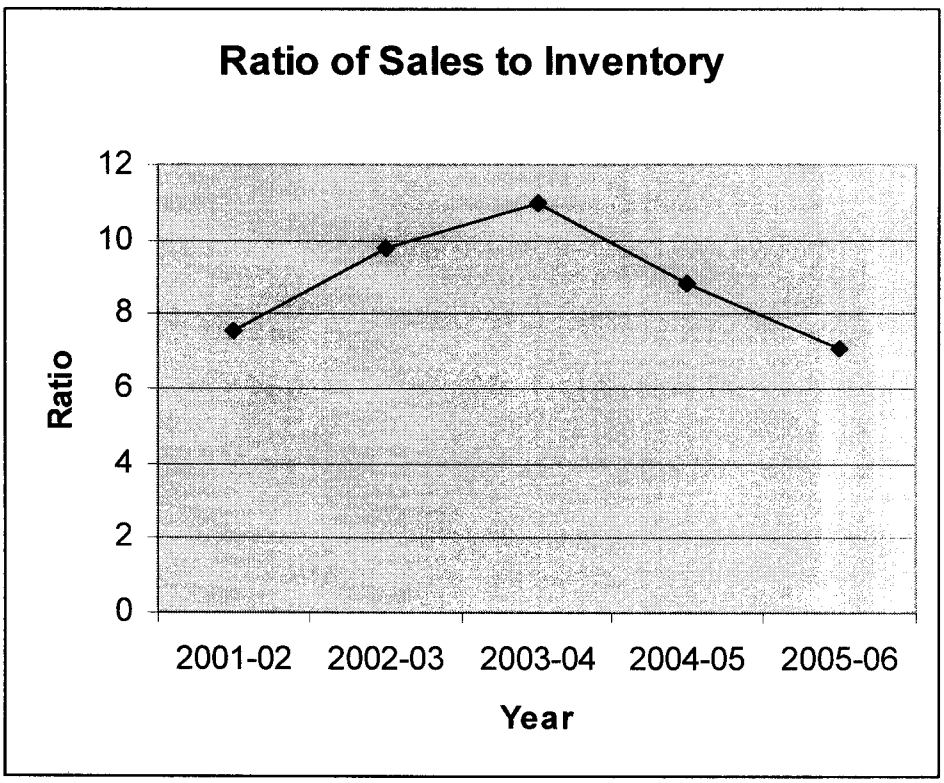
From the above calculated value 11.02 is the highest. The next highest value is 9.75, 8.86 and 7.58 times of the inventory. The least value is 7.10 which mean the proportionate of the sales to inventory is minimum. Thus after this stage they have increased their inventory value to increase the ratio.

Inference:

On analyzing the ratio of sales to inventory, one can conclude that on an average the volume of sales in relation to the amount of capital invested in inventories is 8.86 times.

The sales to inventory ratio is increasing for the first three years and it shows a decreasing trend in the last two years.

FIGURE-4.3


Ratio of Sales to Inventory
Ratio
12
10
8
6
4
2
0
2001-02
2002-03
2003-04
2004-05
2005-06
Year

4.4. Inventory to current assets:

The ratio indicates the amount of investment in inventory per rupee of current asset investment. Generally, as increasing proportion of inventory is indicative of inefficient inventory management. The ratio may also indicate the state of liquidity position of currents asset. The higher the proportion of inventory to current asset the lower the liquidity.

$$\text{Inventory to current assets ratio} = \frac{\text{Closing inventory}}{\text{Current Assets}}$$

The proportion of inventory in current asset of Roots Industries Limited can be presented as under:

TABLE-4.4

INVENTORY TO CURRENT ASSETS RATIO

YEAR	CLOSING INVENTORY (in rupees)	CURRENT ASSETS (in rupees)	RATIO (times)
2001-2002	3,60,27,875	12,78,50,069	0.28
2002-2003	2,75,46,112	11,78,11,216	0.23
2003-2004	3,14,63,506	13,76,98,022	0.23
2004-2005	4,97,80,471	15,82,51,114	0.31
2005-2006	8,08,27,464	22,86,80,143	0.35

Source: - Secondary data.

Interpretation:

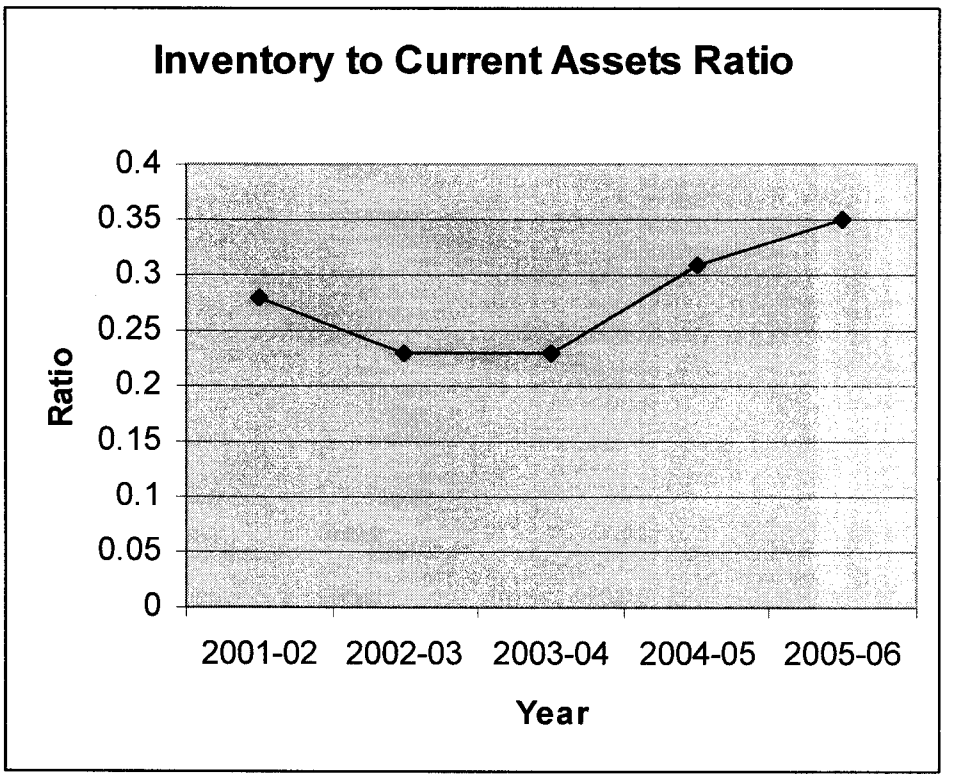
From the above calculated value 0.35 is the highest. The next highest value is 0.31, and 0.28 times of the inventory. The least value is 0.23 which mean the proportionate of the inventory to current assets is minimum. Thus after this stage they have increased their inventory value to increase the ratio.

Inference:

On examining the above table, it can be ascertained that the amount of investment in inventory per rupee of current asset investment is 0.28 times approximately.

The ratio, throughout the period of study, has shown a decreasing trend. The inventory to current asset ratio is increasing for the last two years.

FIGURE-4.4


Inventory to Current Assets Ratio
Ratio
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
2001-02
2002-03
2003-04
2004-05
2005-06
Year

4.5. Inventory to Net Working Capital:

The ratio explains the amount of inventory per rupee of equity / long term financed portion of current asset. A higher ratio may mean greater amount of net working capital investment in inventory and a lower ratio of lesser investment in inventory.

$$\text{Inventory to Net Working Capital} = \frac{\text{Inventory}}{\text{Net Working Capital}}$$

The relationship between the inventory and net working capital of Roots Industries Ltd for the period of study may be presented in the table:

TABLE-4.5

INVENTORY TO NET WORKING CAPITAL RATIO

YEAR	INVENTORY (in rupees)	NET WORKING CAPITAL (in rupees)	RATIO (times)
2001-2002	3,60,27,875	8,64,41,262	0.42
2002-2003	2,75,46,112	7,29,29,725	0.38
2003-2004	3,14,63,506	7,31,99,320	0.43
2004-2005	4,97,80,471	7,25,40,041	0.69
2005-2006	8,08,27,464	12,28,37,644	0.66

Source: - Secondary data.

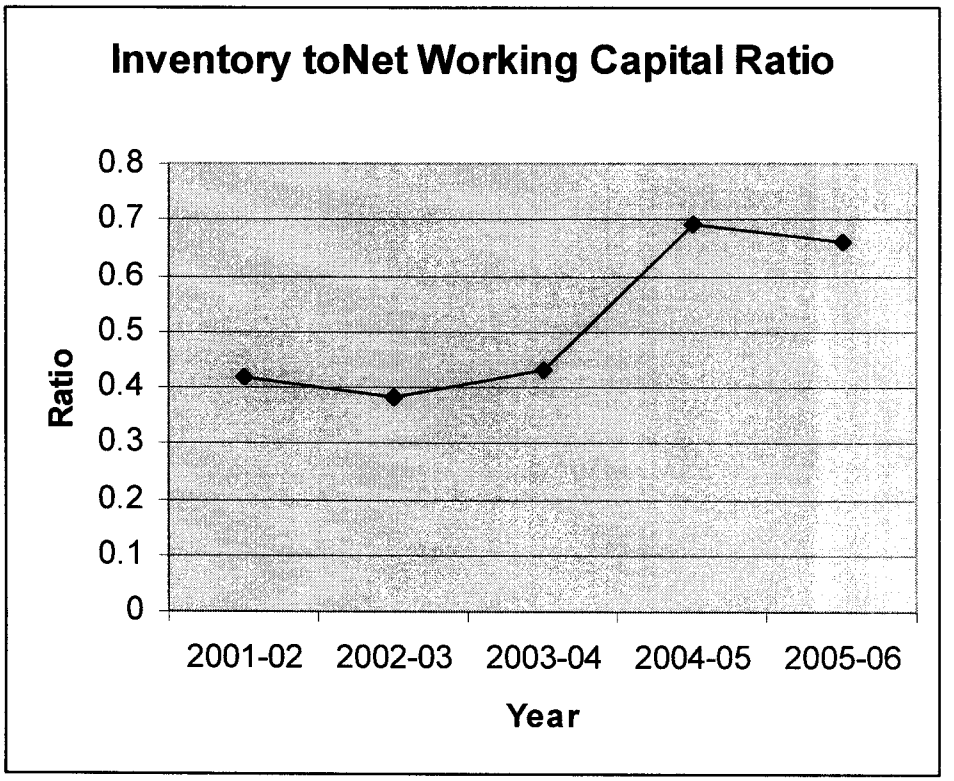
Interpretation:

From the above calculated value 0.69 is the highest. The next highest value is 0.66, 0.43 and 0.42 times of the inventory. The least value is 0.38 which mean the proportionate of the inventory to net working capital is minimum. Thus after this stage they have increased their inventory value to increase the ratio.

Inference:

The analysis of the table shows that, more than 0.52 times of the net working capital has been invested in inventories. The ratio of inventory to net working capital lies between 0.38 to 0.69 with slight fluctuations during the period of the study.

FIGURE-4.5


Inventory toNet Working Capital Ratio
Ratio
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
2001-02
2002-03
2003-04
2004-05
2005-06
Year

4.6. Creditors to Inventory:

The ratio reveals the extent to which inventories are procured through credit purchases. Inventories for this purpose are assumed to include raw materials alone. If the ratio is less than unity it reveals that the credit available is lower than the inventory required.

It also explains the extent of inventory procured through cash purchases. If the ratio is more than one, it explains that the entire inventory is purchased on credit.

$$\text{Inventory to Net Working Capital} = \frac{\text{Creditors for suppliers}}{\text{Inventory of Raw material}}$$

The role of creditors in the procurement of inventory in the organization can be known from the following table:

TABLE 4.6

CREDITORS TO INVENTORY RATIO

YEAR	CREDITORS FOR SUPPLIERS (in rupees)	INVENTORY OF RAW MATERIAL (in rupees)	RATIO (times)
2001-2002	2,34,55,268	2,52,25,230	0.93
2002-2003	2,25,46,501	2,30,81,227	0.98
2003-2004	3,00,94,494	2,43,59,484	1.24
2004-2005	3,99,46,487	3,83,14,972	1.04
2005-2006	6,12,30,707	5,90,91,778	1.04

Source: - Secondary data.

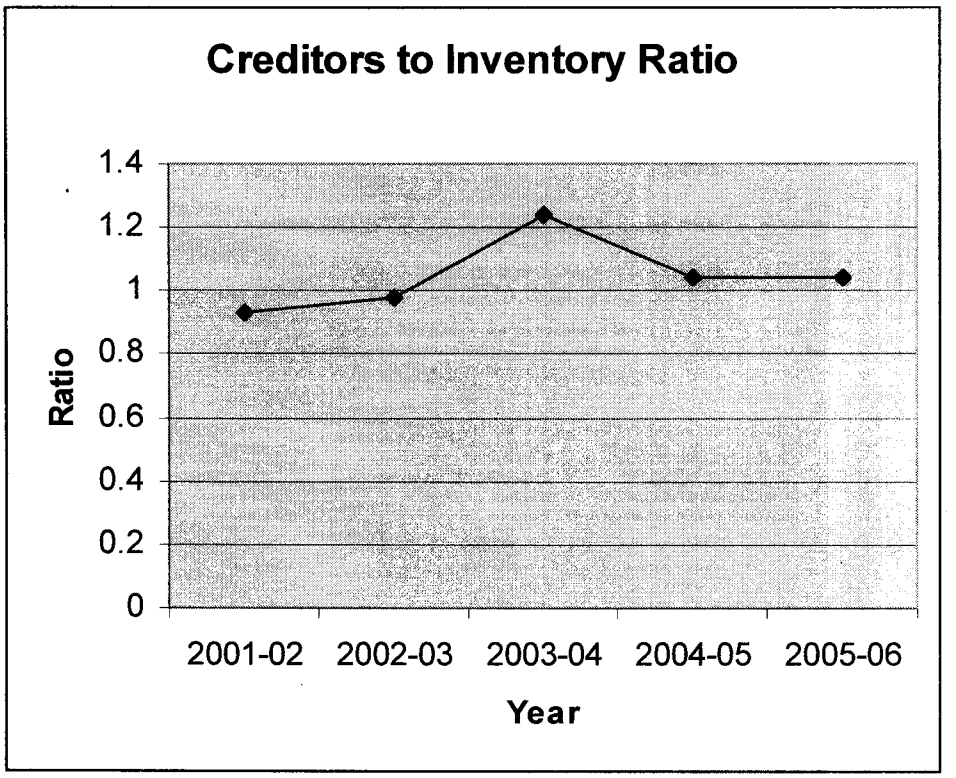
Interpretation:

From the above calculated value 1.24 is the highest. The next highest value is 1.04 and 0.98 times of the inventory. The least value is 0.93 which mean the proportionate of the inventory to net working capital is minimum. Thus after this stage they have increased their inventory value to increase the ratio.

Inference:

The ratio enables to derive a conclusion regarding the use of credit facility available for the purchase of inventories. It can be suggested that almost the entire inventory has been procured on credit basis, as the ratio is more than unity, thereby not locking up the working capital of the company. As the ratio is less than unity in first two years it reveals that the credit available is lower than the inventory required.

FIGURE-4.6


Creditors to Inventory Ratio
Ratio
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2001-02
2002-03
2003-04
2004-05
2005-06
Year

Conclusions

CHAPTER – 5

CONCLUSIONS

5.1. RESULTS AND DISCUSSIONS:

The findings of the study are given below:

- The level of investment in inventories is approximately 0.52 times. It indicates that the working capital tied-up in inventories is very low and the rate of return is more.
- The ratio of inventory to sales is 0.10 times indicating that the company has not locked up its working capital in inventories.
- The volume of sales in relation to the amount of capital invested in inventories is 8.86 times.
- It can be ascertained that the amount of investment in inventory per rupee of current asset investment is 0.28 times approximately.
- The company has maintained the inventory at satisfactory level. The inventory turnover ratio is more than unity in all the years. The higher the ratio the more efficient will be the management of a firm. So it can be said that the liquidity of inventory is in a satisfactory level.
- The company has made use of available credit facilities for the purchase of inventories.
- A major portion of the net working capital i.e. 0.52 times has been invested in inventories.

On analyzing the above, it is inferred that the inventory management in Roots Industries Limited is satisfactory.

5.2.CONSIDERED RECOMMENDATIONS:

A Successful Inventory Management involves balancing the cost of inventory with the benefits of inventory.

- Increasing inventory turnover- but not sacrificing the service level to the customers.
- Keeping stock low- but not sacrificing service or continuity of production.
- Having an adequate inventory in hand- but not getting caught with obsolete items.

The degree of success in addressing these concerns is easier for a Successful Inventory Management.

5.3.CONCLUSION:

Inventories constitute the most significant part of current assets of large companies. This study has been undertaken to analyze the inventory management of Roots Industries Limited. The technique employed for the purpose of the study is Ratio Analysis

The study has taken into account the data from the past five years from 2001-2002 to 2005-2006. It is undertaken on the basis of the sources available from the Annual reports published by the company.

Based on analysis and subsequent findings it is concluded that the inventory management of the organization is satisfactory. It shows the good sign in the organization, and it can be forecasted that the company will grow higher in the future.

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