A STUDY ON WORKING CAPITAL MANAGEMENT OF ROOTS INDUSTRIES INDIA LIMITED, COIMBATORE

A PROJECT REPORT

Submitted by

Y.PARAMASIVAM
Reg. No. 0720400025

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MASTER OF BUSINESS ADMINISTRATION

DEPARTMENT OF MANAGEMENT STUDIES

KUMARAGURU COLLEGE OF TECHNOLOGY

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DEPARTMENT OF MANAGEMENT STUDIES
KUMARAGURU COLLEGE OF TECHNOLOGY
COIMBATORE

BONAFIDE CERTIFICATE

Certified that this project titled **"A STUDY ON WORKING CAPITAL MANAGEMENT OF ROOTS INDUSTRIES INDIA LIMITED, COIMBATORE"** is the bonafide work of **Mr. Y.PARAMASIVAM who** carried out this project under my supervision. Certified further, that to the best of my knowledge the work reported herein does not from 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.

Mr.A.Senthil Kumar
Faculty Guide

Prof. Dr. S.V. Devanathan
Director

Evaluated and viva-voce conducted on 1.11.08

Examiner I

Examiner II

ROOTS INDUSTRIES INDIA LIMITED

RIL/HRD/2801/08

17.09.2008

PROJECT CERTIFICATE

This is to certify that **Mr.Y.Paramasivam, II MBA** student of **Kumaraguru College of Technology** has done a Project Work on **"A Study on Working Capital Management "** in our organisation from **16.06.08** to **19.07.08**.

For **ROOTS INDUSTRIES INDIA LIMITED**

(KAVIDASAN)
DIRECTOR

Regd. Office : R.K.G. Industrial Estate, Ganapathy, Coimbatore - 641 006. INDIA
Tel : +91 422 4330 330 Fax : +91 422 2332 107 E-mail : info@roots.co.in Website : www. rootsindia.com
Factory : Kathirnaickenpalayam Road, Thoppampatty, Coimbatore - 641 017. INDIA
Tel : +91 422 2460 377 Fax : +91 422 2461 458 E-mail : hd@roots.co.in Website : www. rootsindia.com

DECLARATION

DECLARATION

I hereby declare that the dissertation entitled **"A STUDY ON WORKING CAPITAL MANAGEMENT OF ROOTS INDUSTRIES LIMITED, COIMBATORE"** submitted for the MASTER **OF BUSINESS ADMINISTRATION** degree is my original work and the dissertation has not formed the basis for the reward of any Degree, Associate ship, Fellowship or any other similar titles.

Y. Paramasivam

Y. PARAMASIVAM

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ACKNOWLEDGEMENT

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Y. PARAMASIVAM

EXECUTIVE SUMMARY

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The automobile industries play a leading role in the Indian economy in the recent years. For most of the International brands of automobile industries, India is target country to sell their cars and other vehicles. India is not only the target country but also becoming an automobile hub for most of the international brands of vehicle manufacturers. This is because there are numerous supporting Indian vendors to supply the automobile components to meet the international standards of quality.

Roots Industries Limited is a leading automobile components manufacturer occupying a key position in both international and domestic market as suppliers to leading OEMs.

A descriptive cum analytical study has been performed to comment on the working capital management of the concern. Annual records of 5 years (2002-03 to 2006-07) form the secondary source of data for the study. The collected data is collated and analyzed. Ratio analysis a vibrant tool for the financial statement analysis is used to explore the dimension of working capital management of the concern. Major elements representing the working capital position were projected for future years. Suitable recommendations were made for future improvement of the working capital position.

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CHAPTER 1

INTRODUCTION

1.1 WORKING CAPITAL

Working capital is a financial metric which represents the amount of day-by-day operating liquidity available to a business. Along with fixed assets such as plant and equipment, working capital is considered a part of operating capital. It is calculated as current assets minus current liabilities. A company can be endowed with assets and profitability, but short of liquidity, if these assets cannot readily be converted into cash.

A measure of both a company's efficiency and its short-term financial health. The working capital ratio is calculated as:

Positive working capital means that the company is able to pay off its short-term liabilities. Negative working capital means that a company currently is unable to meet its short-term liabilities with its current assets (cash, accounts receivable and inventory).

Also known as "net working capital".

If a company's current assets do not exceed its current liabilities, then it may run into trouble paying back creditors in the short term. The worst-case scenario is bankruptcy. A declining working capital ratio over a longer time period could also be a red flag that warrants further analysis. For example, it could be that the company's sales volumes are decreasing and, as a result, its accounts receivables number continues to get smaller and smaller.

Working capital also gives investors an idea of the company's underlying operational efficiency. Money that is tied up in inventory or money

that customers still owe to the company cannot be used to pay off any of the company's obligations. So, if a company is not operating in the most efficient manner (slow collection), it will show up as an increase in the working capital. This can be seen by comparing the working capital from one period to another; slow collection may signal an underlying problem in the company's operations.

Working Capital Management

Decisions relating to working capital and short term financing are referred to as working capital management. These involve managing the relationship between a firm's short-term assets and its short-term liabilities. The goal of Working capital management is to ensure that the firm is able to continue its operations and that it has sufficient cash flow to satisfy both maturing short-term debt and upcoming operational expenses.

Decision Criteria

By definition, working capital management entails short term decisions - generally, relating to the next one year period - which are "reversible". These decisions are therefore not taken on the same basis as Capital Investment Decisions (NPV or related, as above) rather they will be based on cash flows and / or profitability.

- One measure of cash flow is provided by the cash conversion cycle - the net number of days from the outlay of cash for raw material to receiving payment from the customer. As a management tool, this metric makes explicit the inter-relatedness of decisions relating to inventories, accounts receivable and payable, and cash. Because this

number effectively corresponds to the time that the firm's cash is tied up in operations and unavailable for other activities, management generally aims at a low net count.

- In this context, the most useful measure of profitability is Return on capital (ROC). The result is shown as a percentage, determined by dividing relevant income for the 12 months by capital employed; Return on equity (ROE) shows this result for the firm's shareholders. Firm value is enhanced when, and if, the return on capital, which results from working capital management, exceeds the cost of capital, which results from capital investment decisions as above. ROC measures are therefore useful as a management tool, in that they link short-term policy with long-term decision making. See Economic value added (EVA).

Management of Working Capital

Guided by the above criteria, management will use a combination of policies and techniques for the management of working capital. These policies aim at managing the current assets (generally cash and cash equivalents, inventories and debtors) and the short term financing, such that cash flows and returns are acceptable.

- Cash management. Identify the cash balance which allows for the business to meet day to day expenses, but reduces cash holding costs.
- Inventory management. Identify the level of inventory which allows for uninterrupted production but reduces the investment in raw materials -

and minimizes reordering costs - and hence increases cash flow; see Supply chain management; Just In Time (JIT); Economic order quantity (EOQ); Economic production quantity (EPQ).

- Debtors management. Identify the appropriate credit policy, i.e. credit terms which will attract customers, such that any impact on cash flows and the cash conversion cycle will be offset by increased revenue and hence Return on Capital (or vice versa); see Discounts and allowances.
- Short term financing. Identify the appropriate source of financing, given the cash conversion cycle: the inventory is ideally financed by credit granted by the supplier; however, it may be necessary to utilize a bank loan (or overdraft), or to "convert debtors to cash" through "factoring".

Current assets and current liabilities include three accounts which are of special importance. These accounts represent the areas of the business where managers have the most direct impact:

- accounts receivable (current asset)
- inventory (current assets), and
- accounts payable (current liability)

The current portion of debt (payable within 12 months) is critical, because it represents a short-term claim to current assets and is often secured by long term assets. Common types of short-term debt are bank loans and lines of credit.

An increase in working capital indicates that the business has either increased current assets (that is received cash, or other current assets) or has decreased current liabilities, for example has paid off some short-term creditors.

The dangers of excessive working capital are as follows:

- It results in unnecessary accumulation of inventories. Thus, chances of inventory mishandling, waste, theft and losses increase.
- It is an indication of defective credit policy and slack collection period. Consequently, higher incidence of bad debts results, which adversely affects profits.
- Excessive working capital makes management complacent which degenerates into managerial inefficiency
- Tendencies of accumulation inventories tend to make speculate profits grow. This may tend to make dividend policy liberal and difficult to cope with in future when the firm is unable to make speculative profits.

Inadequate working capital is also bad and has the following danger:

- It stagnates growth. It becomes difficult for the firm to undertake profitable projects for non – availability of working capital funds.
- It becomes difficult to implement operating plans and achieve the firm's profit target.
- Operating inefficiencies creep in when it becomes even to meet day-to-day commitments.
- Fixed assets are not efficiently utilized for the lack of working capital funds. Thus, the firm's profitability would deteriorate.

- Paucity of working capital funds render the firm unable to avail attractive credit opportunities etc.
- The firm loses its reputation when it is not in a position to honour its short-term obligations. As a result, the firm faces tight credit terms.

1.2 REVIEW OF LITERATURE

Hyun-Han Shin and Luc Soenen[1] in their article "Efficiency of Working Capital management and Corporate Profitability" explains working capital management an integral part of the overall corporate strategy to create shareholder value. They investigated the relation between the firm's net-trade cycle and its profitability. This relationship is examined using correlation and regression analysis, by industry and working capital intensity. Using a Compustat sample of 58,985 firm years covering the period 1975-1994, they find, in all cases, a strong negative relation between the length of the firm's net-trade cycle and its profitability. In addition, shorter net trade cycles are associated with higher risk-adjusted stock returns.

Jane M. Cote and Claire Kamm Latham[2] in their article "The Merchandising Ratio: A Comprehensive Measure of Working Capital Strategy" This teaching note has two objectives. First, it explores the limitations of the traditional measures of working capital management presented in the financial ratio analysis component of a typical accounting curriculum. Second, it presents an additional or alternative measure based on early work in the finance literature. Three current asset and liability accounts are combined into a single "Merchandising Ratio," which provides a measure of the net effect of a firm's working capital management strategy. Data from a sample of retailing companies demonstrate how the merchandising ratio can be used to enhance students' analytical skills.

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[1]*Hyun-Han Shin and Luc Soenen (1998),* "Efficiency of Working Capital management and Corporate Profitability", Journal of Financial Association, Winter 1998.

[2]*Jane M. Cote and Claire Kamm Latham(1998)* "The Merchandising Ratio: A Comprehensive Measure of Working Capital Strategy", Journal of Issues in Accounting, May 1999, Vol. 14, No. 2.

MARC DELOOF[3] in his article 'Does Working Capital Management Affect Profitability of Belgian Firms?' explain that most firms have a large amount of cash invested in working capital, as well as substantial amounts of short-term payables as a source of financing. For instance, according to the National Bank of Belgium, in 1997 accounts receivable and inventories were respectively 17% and 10% of total assets of all Belgian nonfinancial firms. Accounts payable were 13% of total assets of these firms. It can be expected that the way in which working capital is managed will have a significant impact on the profitability. Accordingly, for many firms working capital management is a very important component of their financial management.

Vishal Gaur, Marshall L. Fisher, Ananth Raman[4] in their article "An Econometric Analysis of Inventory Turnover Performance in Retail Services" explains the variation of the Inventory turnover widely across retailers and over time. This variation undermines the usefulness of inventory turnover in performance analysis, benchmarking, and working capital management. They developed an empirical model using financial data for 311 publicly listed retail firms for the years 1987–2000 to investigate the correlation of inventory turnover with gross margin, capital intensity, and sales surprise (the ratio of actual sales to expected sales for the year). The model explains 66.7% of the within-firm variation and 97.2% of the total variation (across and within firms) in inventory turnover. It yields an alternative metric of inventory productivity, adjusted inventory turnover, which empirically adjusts inventory turnover for changes in gross margin, capital intensity, and sales surprise, and can be applied in performance analysis and managerial decision making.

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[3]*MARC DELOOF (2003),* 'Does Working Capital Management Affect Profitability of Belgian Firms?', Journal of Business Finance & Accounting, April/May 2003, 30(3) & (4).

[4]*Vishal Gaur, Marshall L. Fisher, Ananth Raman (2005),* "An Econometric Analysis of Inventory Turnover Performance in Retail Services", Journal of Management Science, February 2005, Vol. 51, No2, pp. 181-194.

Brian Flanagan[5] in his article 'Managing Working Capital' explains the need of working capital cycle. Cash flows in a cycle into, around and out of a business. It is the business' Life blood and every manager's primary task is to help keep it flowing and to use the cash flow to generate profits. If a business is operating profitably, then it should, in theory, generate cash surpluses. If it doesn't generate surpluses, the business will eventually run out of cash and expire. The faster a business expands the more cash it will need for working capital and investment. The cheapest and best sources of cash exist as working capital right within business. Good management of working capital will generate cash and help improve profits and reduce risks. Bear in mind that the cost of providing credit to customers and holding stocks can represent a substantial proportion of a firm's total profits.

Professor IOANNIS LAZARIDIS, and TRYFONIDIS[6], in their paper 'RELATIONSHIP BETWEEN WORKING CAPITAL MANAGEMENT AND PROFITABILITY OE LISTED COMPANIES IN THE ATHENS STOCK EXCHANGE' investigates the relationship of corporate profitability and working capital management. They used a sample of 131 companies listed in the Athens Stock Exchange (ASE) for the period of 2001-2004. The purpose of this paper is to establish a relationship that is statistically significant between profitability, the cash conversion cycle and its components for listed firms in the ASE. The results of their research showed that there is statistical significance between profitability, measured through gross operating profit, and the cash conversion cycle. Moreover managers can create profits for their companies by handling correctly the cash conversion cycle and keeping each different component (accounts receivables, accounts payables, inventory) to an optimum level.

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[5]*Brian Flanagan(2005),* 'Managing Working Capital', Journal of Business Credit, September 2005.

[6]*Professor IOANNIS LAZARIDIS, and TRYFONIDIS (2006),* 'Relationship Between Working Capital Management and Profitability of Listed Companies in the Athens Stock Exchange', Journal of Financial Management & Analysis, 19(11):2006:26-35.

Maynard E. Rafuse[7] in his paper titled 'Working capital management: an urgent need to refocus' Argues that attempts to improve working capital by delaying payment to creditors is counter-productive to individuals and to the economy as a whole. Also claims that altering debtor and creditor levels for individual tiers within a value system will rarely produce any net benefit. Proposes that stock reduction generates system wise financial improvements and other important benefits. Urges those organizations seeking concentrated working capital reduction strategies to focus on stock management strategies based on "lean supply-chain" techniques.

Cecilia Wagner Ricci and Gail Morrison[8] in the paper titled 'International Working Capital Practices' reports the results of a survey of the international working capital management practices of the Fortune 200. The purpose of the survey was to obtain information on some international aspects of working capital management in major American firms. The survey focuses on three areas of international working capital management: international cash management operations, international cash collection and credit management practices, and foreign exchange risk management activities. The .survey also requested additional information from the respondents, including the percentage of their firms ' sales that are international, the number of foreign banks with which their firm has relationships, the number of demand deposit accounts the firm has abroad, and the level at which the firm s international working capital decisions are made.

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[7]*Maynard E. Rafuse (1996),* 'Working capital management: an urgent need to refocus', Journal of Management Decision, 1996, Vol. 34/2, pp 59-63.

[8]*Cecilia Wagner Ricci and Gail Morrison(1998),* 'International Working Capital Practices' Journal of Financial Management Association, Winter 1998.

1.3 STATEMENT OF THE PROBLEM

The Working Capital forms the fulcrum for the smooth running of an organization. The investment in current assets and current liabilities tend to affect the short-term solvency position of a manufacturing organization. Hence, a study to understand the working capital management practices is found to be a vital research problem to be studies upon.

1.4 OBJECTIVES OF THE STUDY

Primary Objectives:

- To analyse the working capital management practices of Roots Industries India Ltd

Secondary Objectives:

- To determine efficiency in cash, inventories, debtors and creditors
- To understand the liquidity and profitability position of the firm
- To conduct a time series analysis and project the requirement of key financial variables.

1.5 SCOPE OF THE STUDY

The study has been done based on the data taken for five financial years on which, 12 ratio analysis and trend analysis were done. Based on the results, suggestions were made which could be considered by the company for the effective management of working capital. Apart from this, the project has the scope of studying few more ratios and trend analysis and results may be utilized to zero down on the problems existing in the working capital management area.

1.6 RESEARCH METHODOLOGY

1.6.1 RESEARCH:

Research in common parlance refers to a search for knowledge. Redman and Mory define Research as a "systematized effort to gain knowledge".

1.6.2 RESEARCH METHODOLOGY:

Research Methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically.

1.6.3 RESEARCH DESIGN:

A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in produce.

A Study on Working Capital Management in Roots Industries India Limited uses **Descriptive cum Analytical Research Design.**

1.7 METHOD OF DATA COLLECTION:

In this study the secondary data is sued.

1.7.1 SECONDARY DATA:

Secondary data means data that are already available (i.e.) they refers to the data which have already been collected and analyzed by the

some one else. Secondary data may either be published data or unpublished data.

In this study the 5 year Annual Reports of Roots Industries India Limited for the period 2002-03 to 2006-07 were used.

1.8 TOOLS FOR DATA COLLECTION:

Analyzing the data with some statistical technique is called as data analysis.

The tools for data analysis to be considered in this study are as follows:

- Percentage analysis
- Trend analysis

1.8.1 PERCENTAGE ANALYSIS:

The expression of data in terms of percentage is one of the simples statistical devices used in the interpretation of business and economic statistics. Percentages are useful chiefly for the purpose of aid in; comparison. A percent in the number of hundredth parts on number o another.

1.8.2 TREND ANALYSIS:

Trend is a general long term movement in time series value of the variable(y) over a fairly long period of time. The variable y is the factor which we are interested in evaluation for future. If trend can be determined and rate of change can be ascertained, then tentative estimates on same series value into future can be made.

1.9 LIMITATIONS OF THE STUDY

The following are the limitations of the study:

- Nature of the data is secondary. The analysis involves investigating published financial statements.
- Financial performance analysis is only a part of the complete analysis of the company.
- The ratios are generally calculated from the past financial statements and thus are no indicators of future.
- The results are only applicable to Roots Industries India Ltd.,
- Price level changes make the interpretations of ratios invalid.

ORGANIZATION PROFILE

CHAPTER 2

ORGANIZATION PROFILE

2.1 ROOTS INDUSTRIES LTD

Roots Industries Ltd. is a leading manufacturer of **HORNS** in India and the 11th largest Horn Manufacturing Company in the world.

Headquartered in Coimbatore - 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. Now, RIL is the first Indian Company and first horn manufacturing company in the world to get ISO/TS 16949 certification based on effective implementation of QS 9000 and VDA 6.1 system requirement earlier. 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.

2.1.1 VISION:

"We will stand technologically ahead of others to deliver world-class innovative products useful to our customers". We will rather lose our business than our customers' satisfaction. It is our aim that the customer should get the best value for his money.

Every member of our company will have decent living standards. We care deeply for our families, for our environment and our society. We promise to pay back in full measure to the society by way of selfless and unstinted service.

2.1.2 QUALITY

QUALITY POLICY:

They are committed to provide world-class products and services with due concern for the environment and safety of the society. This will be achieved through total employee involvement, technology up-gradation, cost reduction and continual improvement in,

- Quality of the products and services
- Quality Management system
- Compliances to QMS requirements

Quality will reflect in everything we do and think

- Quality in behaviour
- Quality In governance
- Quality in human relation

ENVIRONMENTAL POLICY:

With due concern towards maintaining and improving the Quality of Life, Roots is committed for sustainable development by minimizing pollution and conserving resources. This will be achieved through continual improvement in Environmental Awareness of all employees & associates, Legal Compliance and Objective towards Environmental Protection.

PEOPLE – ARE VALUABLE ASSET:

This company 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 train its employees at all levels. Conducted in-house, the training programmer equips 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. Lasting relationship will evolve only when people know that their work is valued and that they contribute meaningfully to the growth of the organization. At Roots, people across the group companies, through interactions at workshops and seminars, get to know each other individually, share their common experiences and learn something about life.

2.1.3 ENGINEERING RESEARCH CENTRE:

The Engineering Research Centre (ERC) is involved in the continuous improvement and enhancement of design to increase performance and reliability. The ERC functioning under three distinct heads cater to the needs of Roots Industries, Roots Multiclean and Roots Auto products. Though there is a three-pronged operational ethos, the ERC is integrated and meshed seamlessly with one single objective: that of design research and performance monitoring. Through extensive product engineering, the ERC cell of ROOTS achieves the following:

- Designing and developing new products with customer focus.
- Conducting required tests to ensure product reliability.
- Initiating necessary corrective and preventive action for ensuring peak performance.
- Fine-tuning products with available components to satisfy customer requirements.

The ERC consists of the best talent that includes engineering graduates, ITI brains and design engineers. The team works with top-notch tools like.

- Proe2000i2 – for solid modeling
- AutoCAD 2000 – for Drafting
- CorelDraw V 8.0 – for Graphical Applications

2.1.4 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 irritation 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

2005 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. RAMASAMY, 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.

2.2.1 CUSTOMER BASE OF COMPANY

The company is a leading supplier to the entire major vehicle manufacturer that includes:

- Mercedes Benz
- Mitsubishi Lancer
- Mahindra & Mahindra
- Toyota
- Fait Uno and Siena
- TELCO
- TVS Suzuki
- Kinetic Honda

2.2.2 COLLABORATIONS

Roots made technical collaboration with Robert Bosch S.A. of Spain in 1995, which helped it to further, strengthen its R & D activities and technical competence.

M/s. J.Oswa & co., Japan one of the oldest and respected Japanese trading houses has chosen Roots for the tie-up arrangement to manufacture horns for the native market.

2.2.3 PRODUCTS

The products that get mould and shape in the Roots Industries Limited are:

PRODUCTS NAME FITTED IN TO

- VIBROSONIC DELUX
  - Car, Jeep, truck, van, tractor.
- MEGASTONIC DELUS
  - Truck, van, tractor
- CLEARTONE DELUX
  - Bike, car, jeep, van
- SUPERSONIC
  - -Car, jeep, truck, van, tractor
- CLAERTONE ULTRA
  - -Bike, car, jeep, van
  - -Car, jeep, van

2.2.4 LAURELS AND ACHIEVEMENTS

In a short span of time, Roots Industries Limited, has taken on some of the giants in the industry and emerged with winning colors. Their foot prints are as follows:

- Roots were the first horn manufacturer to obtain the prestigious ISI mark of quality for its products.
- It was the first company in India to get the European Homologation certificate from Germany.
- Roots were the first Horn Manufacturer in Asia to obtain QS 9000 and VDA (Veapon Dear Automobile) 6.1 Certificate for Germany company.

- It was the first company to introduce electronically controlled Musical Air Horns.
- Roots were awarded the American International Quality Award in 1994.

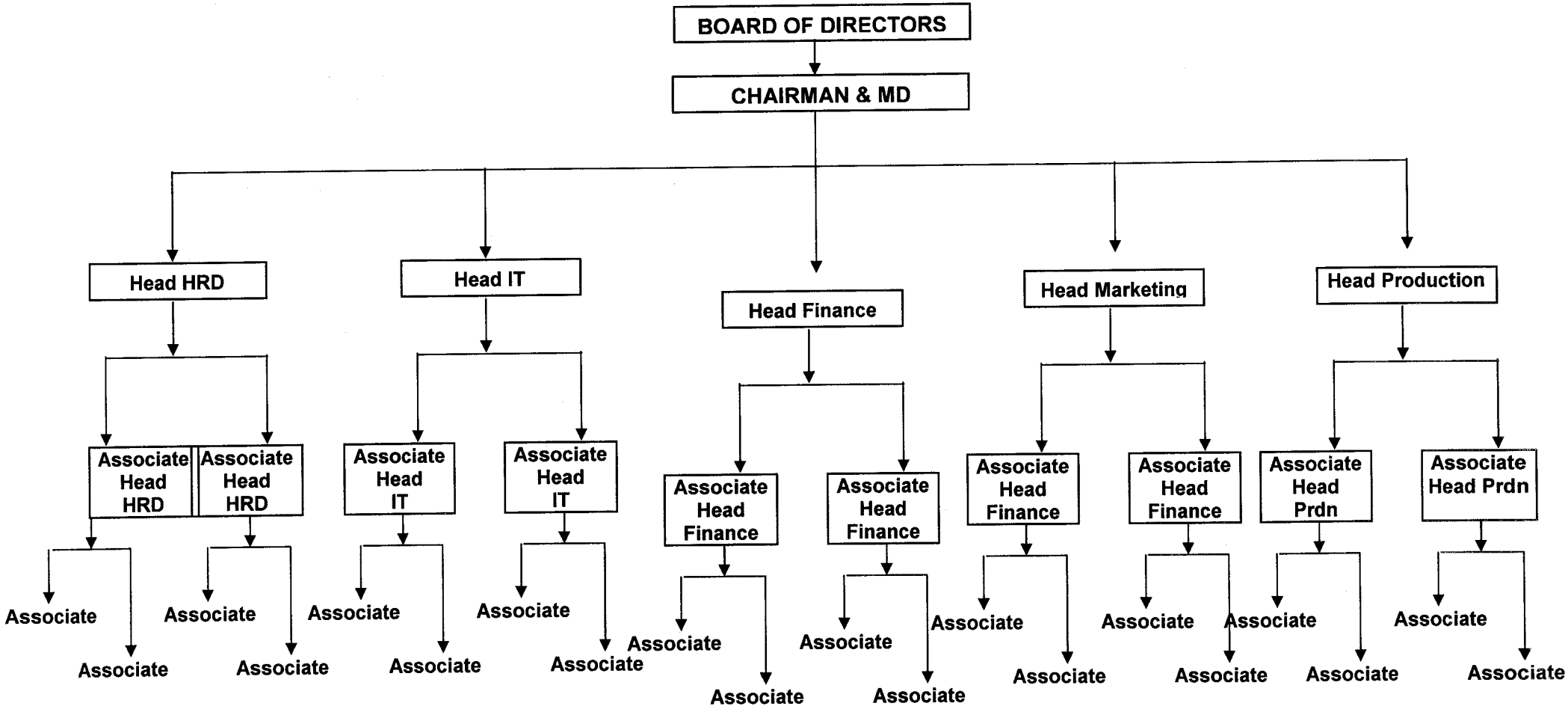
2.2.5 ALLIANCES

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.

2.3. Organizational Structure



2.4 THE ROOTS GROUP

- Roots Industries Limited
- Roots Auto Products Private Limited
- Roots Multiclean Limited
- Roots Cast Private Limited
- Roots Precision Products
- Roots Digital Engineering Services Private Ltd
- Roots Metrology Laboratory
- Roots Polycraft
- R K Nature Cure Home
- Satchidananda Jothi Nikethan
- Crystal Clean Care

- Roots Industries Malaysia Sdn. Bhd.

2.4.1 NETWORK:

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 are 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.

- **ROOTS AUTO PRODUCTS PRIVATE LIMITED (RAPPL):**

RAAPL as it is fondly known had the unique distinction of being the first (P) Ltd., Company to be started by Mr. Ramaswamy, the founder and managing director of Roots. RAPPL specializes in Air-Horns. Today it is the

largest manufacturer of Air-Horns. Today it is the largest manufacturer of Air-Horns catering mainly to the replacement market in India. Its diverse product range is used in heavy vehicles and earthmovers.

- **ROOTS MULTICLEAN LIMITED (RMCL):**

The genesis of Roots Multi-Clean Ltd., id 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 Multinationals who had very high standard of house keeping. RMCL is the role representative in India and SAARC countries for the Hako Werke Gmbh & Company's entire range of cleaning equipment.

- **ROOTS CAST PRIVATE LIMITED (RCL):**

Roots Cast was started in the year 1985 to cater to the captive aluminium and Zinc pressure dye cast components requirements of Roots group for manufacture of automobile accessory. It was formerly known as Aruna Auto Castings (P) Ltd., (AAC). Roots Cast is supported in its activities with specialized services like CAM.

- **ROOTS PRECISION PRODUCTS (RPP):**

Roots precision products were established in 1987 to address the in-house tooling needs of the diverse industries in the Roots group. RPP, acts as a one-stop solution for tooling and precision machining. Its equipment line-up includes some of the best CNC machines from Germany, with master CAM software for 3D Machining, Spark EDM and all conventional tool room

machines. All this coupled with design-excellence with Auto CAD and Pro-Engineer software.

- **POLYCRAFT PRODUCTS:**

Polycraft, the company was established in 1988 to manufacture high precision plastic components. Though it initially catered to the Roots group alone, Polycraft has now expanded its operations; the company under takes Job orders and has become a market-conscious player.

- **RK NATURE CURE HOME:**

This wing of Roots is unique; its inception has been oriented with social activities and intends to tap the natural potential of India medicine and fitness concepts. This healing center act as a buffer from today's hectic and fast-paced lifestyles. It is confident of healing chronic diseases through time-tested natural methods like Diet, Hydrotheraphy, clay theraphy, massage and yoga.

2.5 FUNCTIONAL DEPARTMENT

2.5.1 HUMAN RESOURCE DEPARTMENT

INTRODUCTION

Human Resources Department is a management function that helps managers recruit, select, train and develop members for an organization. Obviously HR Department is concerned with the people's dimensions in organization. The functions and principles are applied to developing,

maintaining and remunerating employees in organization. Mr. Kavidasan (Head-Corporate HRD) heads this department.

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

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

Lasting relationship will evolve only when people know that their work is valued and that they contribute meaningfully to the growth of the organization. At Roots people across the group company through interaction at workshops and seminars get to know each other individually share their common experiences and learn something about life.

Personal Culture

The Management has been encouraging and promoting a very informal culture "Personal Touch" sense of belonging, enabling employees to become involved and contribute to the success of the company. The top management also conscientiously inculcates values in the people.

Work Environment

Special and conscious efforts are directed towards house keeping of the highest order. Renovation and modernization of office premises and office support systems are carried out in an on going basis.

Training

Roots believe in systematic training for employees at all levels. As a part of the organizational development efforts, training programs are being conducted in-house for employees at all levels I addition staffs are also sponsored for need bared training programs at leading management development institutes.

Personnel Activities

To see that discipline of coordinal industries relationship are maintained. Incase of any disputed it is the duty of HR manager to see yeast the matter in settled amicably.

An HRD manager plays the role of liason officers between the management of the workers.

- Recruitment
- Induction training of placement
- Attendance and leave regulation
- Performance Appraisal

Methodology

- Aptitude test
- Intelligence test
- Personal Interview
- Achievement Test
- Group Discussion
- Attitude Test

2.5.2 FINANCE DEPARTMENT

Finance is the lifeblood of business. Finance is that business activities which is concerned with acquisition and conversion of capital funds in meeting the financial needs and overall objectives of business enterprises. The main function of this department is to provide finance to various departments. The Finance General Manager Mr. K. Ravi controls the finance department.

The turnover of the company in 2005 is Rs. 6337 (in lacs). Currently the organization has a working capital of its 89 crores. There are 25 employees in finance department.

2.5.3 PURCHASE DEPARTMENT

Purchasing procedure varies with different business firms but all of them follow a general pattern in the purchase and receipts of materials and payment obligations. The purchase department takes care of all cash and credit purchases. The materials are purchased placing orders based on

indent raised from the stores. A ledger is maintained in the regard. The purchase order is send to the supplier.

The purchase orders shall contain a clear description of the products, drawing number, quality, rate, delivery, schedules, Terms payment, mode of dispatch and other relevant data.

The following steps are followed for purchasing of material:

1. The concerned department that is in need of a particular material will give a purchase requisition slips to the stores department.
2. The storekeeper of the material is available in stores they will cancel the purchase requisition and provide the material to the concerned department.
3. If it is not available in stores the storekeeper will forward the purchase requisition to the purchase manager in the purchase department.
4. In the purchase requisition slip the following things must be mentioned.

2.5.4. STORES DEPARTMENT

In this department which places orders and receives raw materials on behalf of the manufactures the product are kept in stores department. A storekeeper is appointed to look after the stores. His job is assigned to take care of the spares and to maintain the stores ledger.

The worker who is in need of spare parts may come and collect it at any time with the signature of the departmental heads. This book is known as Issue Order. In the store they keep the account for what are all things stored

in the stores. If any item comes into the store they will register it in the book called inward register. From this inward register they will make entry in the material inward receipt from this they pass it to the store ledger and they will equalize the goods issue and the accounts.

Functions of stores:

- Identification of all material stores
- Receipt of incoming goods
- Inspection of all receipts
- Insurance Claims
- Storage Accounting
- Materials Handling
- Packing and Dispatching
- Maintenance of stock records
- Stores Accounting & Inventory Control
- Stock-Taking
- Disposal of scraps

2.5.5. QUALITY DEPARTMENT

Quality Control

The vision statement of Roots is "Vision of Roots is to become a model company providing value to our customers. It is imperative that we give more than what we take our customers and the society. Our products must serve our customers beyond their expectations."

"We are committed to provide world-class products and services with due concern for the environment and safety of the society". This will be achieved through:

- Continuous improvement
- Technology Upgradation
- Cost Reduction
- Total Employee Involvement

Roots Mission

To be valued as a company that understands quality and integrates it at every level.

Japanese Principles

Roots follow the Japanese Principle while concentrating on their quality

SEIRI	-	Sorting
SEITON	-	Organizing
SEISO	-	Keeping Work Environment clean
SIEKETSU	-	Set standards and Flow
SHITSUKE	-	Self Discipline

QUALITY – AN ALL PERVASIVE ENTITY:

Roots is committed to manufacture customer-centric and technology-driven products on par with international quality standards. For example, the horns manufactured undergo a rigorous life-cycle test and are subjected to an endurance of over 200,000 cycles of performance while the industry norm requires only 100,000.

What's more, Roots believes in a quality culture that goes beyond just products. Equal emphasis is given to quality in human relation and quality in service. Roots in its journey towards Total Quality Management have reached important milestones: ISO 9001, QS 9000, VDA 6.1, ISO/TS 16949 and ISO 14001 Certification, presently in the process of obtaining NABL accreditation for our Metrology lab. The Group's TQM policy has a well-integrated Quality Circle Movement with active employee participation at various levels.

2.5.6 IT DEPARTMENT

Information Technology Department

Businesses today are continuously trying to increase productivity and efficiency, reduce cost of production. For this technology is used to expand the existing, market and create new markets. This is devoted to the development and use of hardware, software, firmware and procedures associated with this processing. General Manager Mr. O.A. Balasubramaniam Heads this Department.

Information Technology at Roots

Today is a whole new ball game, the game has changed and we must change with it

- Global presence and competition
- Solutions dominate among the buyers
- Time to market
- Customer focus is on market driving capabilities
- Delivery Capability across entire value chain

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 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 or 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. The organization used the ERP (Enterprise resource Planning) which all the different models are present and it's being customized. IT delicates in the concern.

There are different models in the ERP. They include:

- PPC (Production Planning Control)
- Sales
- Purchase
- Manufacturing
- Inventory
- General Ledger
- Shop Floor Control
- Engineering Change Order
- Lot Tracking
- 65 clients are equipped with Pentium processors and other with 486 processors.

Servers

- Database Sever for the Accounts Department
- A Server for the Design Department
- A Server for Novel Netware
- Main Server

2.5.7 MARKETING DEPARTMENT

Marketing is a human activity directed at satisfying needs and wants through an exchange process. The main aim of marketing is to make sales in order to earn reasonable profit. In Roots marketing is basically done for the cleaning products. General Manager Mr. Raja Gopal Head this Department.

Clients for RMCL in the Public Sector

- BHCL
- NTPC
- BEC
- BARC
- Ministry of defence
- Municipality Corporation
- IOCL
- HPCL

Clients for RMCL in the Private Sector

- Reliance
- Hyundai
- LMW
- Ashok Leyland

- MICO
- Ford
- Mahindra
- Toyota Kirloskar
- TVS Motor Co

Sales Promotion Activities

- Participate in International Marketing Exhibitions
- Direct domes in Industries
- Advertising

2.5.8. EXPORT DEPARTMENT

The company has shown a tremendous growth in the export sector too, a the turnover has increased from 1 NR 4 million to 35 million in a span of 4 years due to its quality and performance coupled with cost efficiency. The firm has been participating in Auto Mechanics 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 Horns for 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. J. Owawa & 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 Procedures

- Receipt of order
- Order acknowledge/Proforma invoice
- Approach Bank for pre-shipment credit (such as packing credit)
- Obtain ECGC Cover
- Prepare Post-shipment document
- Post shipment credit
- Liason with C & F agent for sailing details
- Assist customer to clear consignment at their end
- Identify C & F agent for completing shipment facilities
- Advice customer for insurance
- Bank realization certificate
- Apply for DEFB license with DEGFT or follow up with customs for DBK.

Exports to more than 15 countries that include

- Germany
- Australia
- Italy
- Japan
- USA
- Spain
- Singapore
- France
- Brazil
- UAE
- Korea
- UK
- South Africa

2.6 COMPETITIVE STRENGTH OF THE COMPANY

Roots its leading Original Equipment Supplier to major vehicle manufacturers like Daimler Chrysler, 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 is one of the largest cleaning machine manufactures 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 its so well established that Hako buys back a major portion for their global market.

RMCL also represents several global manufacture of cleaning products and its gearing itself up to provide customized, total cleaning solution.

MACRO-MICRO ECONOMIC ANALYSIS

CHAPTER 3

MACRO-MICRO ANALYSIS

The Macro & Micro analysis of Auto parts industries in economic growth, Competitive strength, career growth, opportunities etc in domestic and foreign countries. The brief discussion given below;

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 amounts 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 and 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 (NAFTA, 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.

3.1.1 Future Macro 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

3.1.2. 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.

3.1.3 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 states 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.

3.2 Micro Analysis

Roots industries which are the 11th largest auto horn producing company, with the huge competition roots industries is performing at global level. In India we have good demand on auto parts because we are the 3rd largest in three wheeler users, 2nd largest in two wheeler users and 4th in four wheelers among the world. Thus roots industries will be suitable to satisfy the demand from the automobile industry.

By efficiently managing the working capital, Roots industries could be able to meet the scale of production depending upon its demand and also could be able to offer competitive prices for its products with quality to compete with domestic and international players.

DATA ANALYSIS AND INTERPRETATION

CHAPTER IV

ANALYSIS AND INTERPRETATION

CURRENT RATIO

The current ratio, measures the ability of the firm to meet its current liabilities. Current assets get converted into cash in the operational cycle of the firm and provide the funds needed to pay current liabilities. Apparently, the higher the current ratio, the greater the term solvency is expected to be.

$$\textbf{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

The two basic components of this ratio are: current assets and current liabilities. *Current assets* include: cash and those assets which can be easily converted into cash within a short period of time, such as marketable securities, bill receivables, sundry debtors, inventories, work-in-progress, etc.

Current liabilities ate those obligations which are payable within a short period of generally one year and include outstanding expenses, bills payables, sundry creditors, accrued expenses, short-term advances, income-tax payable, dividend payable, etc.

As a convention the minimum of 'two to one ratio' is referred to as a banker's rule of thumb or arbitrary standard of liquidity for a firm. A ratio equal or near to the rule of thumb of **2:1** i.e., current assets double the current liabilities is considered to be satisfactory.

TABLE 1.

Current Ratio

PARTICULARS	CURRENT ASSETS (Rs. in Crores)	CURRENT LIABILITIES (Rs. in Crores)	CURRENT RATIO
2002 - 2003	13.76	6.44	2.13
2003 - 2004	15.83	8.57	1.84
2004 - 2005	22.86	10.58	2.17
2005 - 2006	25.87	14.93	1.73
2006 - 2007	32.14	18.71	1.72

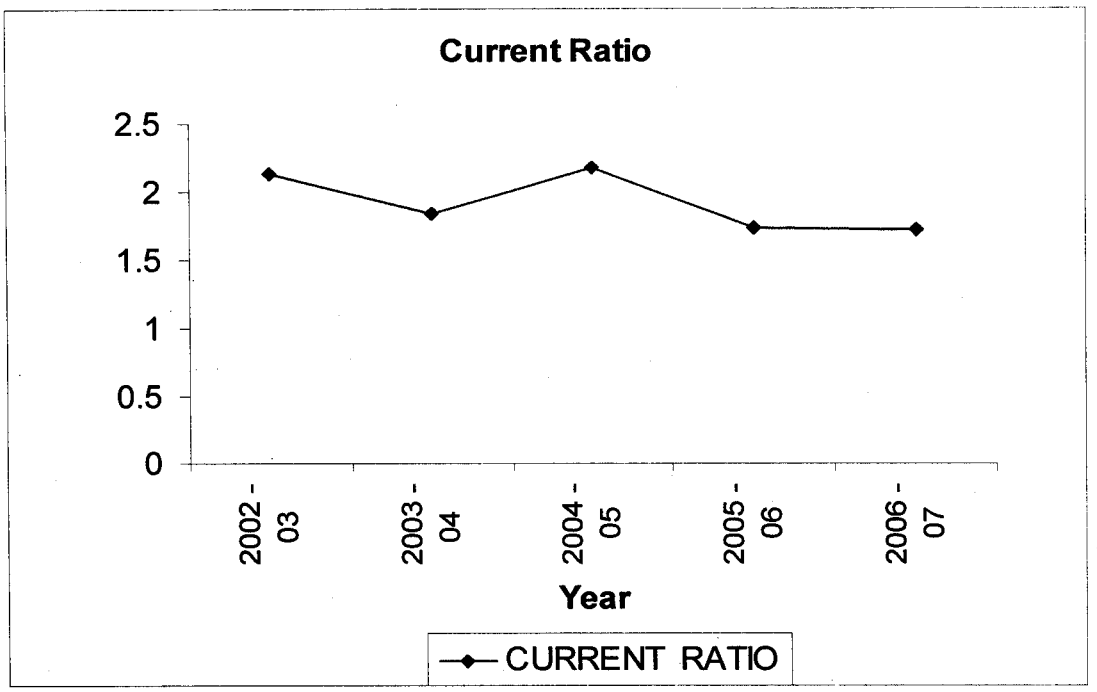
Interpretation:

The current ratio during the years 2002-03 and 2004-05 was higher at 2.13 & 2.17. In the years 2003-04, 2005-06 & 2006-07 it was 1.84, 1.73 & 1.72 respectively.

Inference:

The current ratios during the years 2002-03 and 2004-05 were above 2, fulfilling the arbitrary standard convention. Rest 3 years it was less than 2, showing a less probable liquidity position of the organization.

CHART NO. 1


Current Ratio
2.5
2
1.5
1
0.5
0
2002 - 03
2003 - 04
2004 - 05
2005 - 06
2006 - 07
Year
CURRENT RATIO

QUICK RATIO

Quick ratio, also known as acid test or liquid ratio gives the relationship between quick assets and current liabilities of the firm. It is calculated by the dividing quick assets by current liabilities. Quick assets are derived by subtracting inventory from the current assets. This is because the inventory is relatively less liquid. A thumb rule of **1:1** is considered to be satisfactory.

$$\textbf{Quick ratio} = \frac{\text{Quick assets}}{\text{Current liabilities}}$$

TABLE 2

QUICK RATIO

PARTICULARS	QUICK ASSETS (Rs. in Crores)	CURRENT LIABILITIES (Rs. in Crores)	QUICK RATIO
2002 - 2003	10.62	6.44	1.65
2003 - 2004	10.85	8.57	1.27
2004 - 2005	14.76	10.58	1.39
2005 - 2006	18.67	14.93	1.25
2006 - 2007	23.23	18.71	1.24

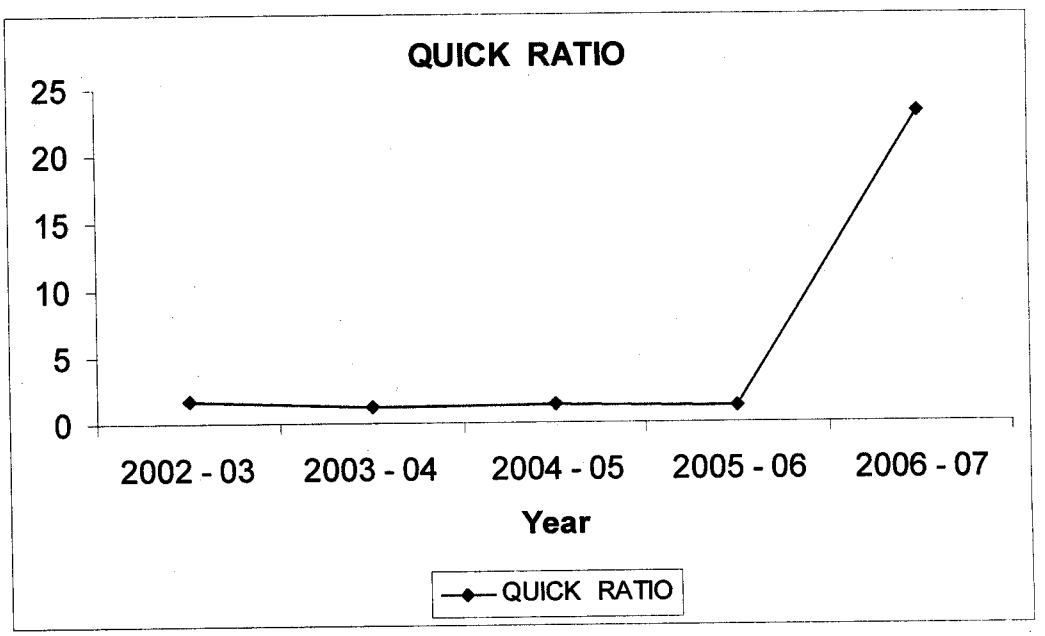
Interpretation:

Quick ratio of the company during 2002- 03 was 1.65 and during the years 2003-04, 2004-05, 2005-06 & 2006-07 it was 1.27, 1.39, 1.25 and 1.24 respectively.

Inference:

A quick ratio of 1:1 is considered to be satisfactory for any organization. In this case, the quick ratio was consistently more than 1 i.e. the quick assets was in satisfactory position to meet the current liabilities.

CHART NO. 2



INVENTORY TURNOVER RATIO

It indicates the number of times the stock has been turned during the period and indicates the efficiency with which a firm is able to manage its inventory.

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

Inventory conversion period= $\frac{365}{\text{Inventory turnover}}$

There is no 'standard inventory turnover ratio' for interpreting the inventory turnover ratio. The norms may be different for different firms depending upon the nature of industry and business conditions.

TABLE 3

INVENTORY TURNOVER RATIO

PARTICULARS	NET SALES (Rs. in crores)	INVENTORY (Rs. in crores)	INVENTORY TURNOVER RATIO	INVENTORY CONVERSION PERIOD
2002 - 2003	34.68	3.14	11.05	33days
2003 - 2004	44.13	4.98	8.84	41days
2004 - 2005	63.36	8.08	7.84	46days
2005 - 2006	64.45	7.21	8.94	40days
2006 - 2007	76.22	8.91	8.55	42days

Interpretation:

During the year 2002-03 the ratio was 11.05. The turnover ratio for the period from 2003-04 to 2006-07 was 8.84, 7.84, 8.94 & 8.55 respectively. Based on this, the inventory conversion period was calculated as 33, 41, 46, 40 and 42 days.

Inference:

During the financial year 2002-2003 it has taken only 33 days for the stock to get realization on sales. But consequent years it has taken more than 40 days to get stock realized on sales.

CHART NO. 3

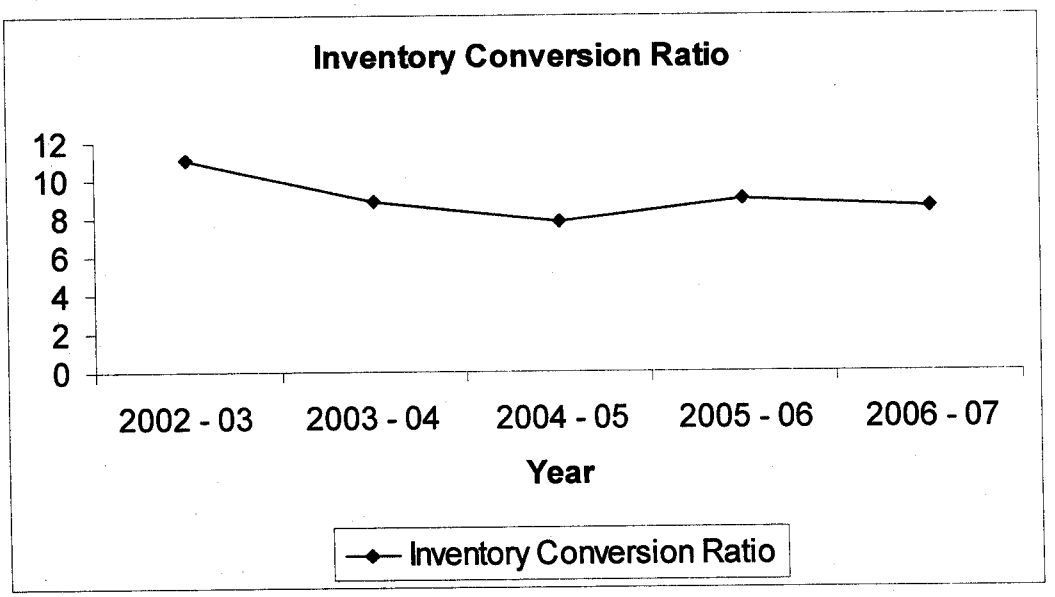
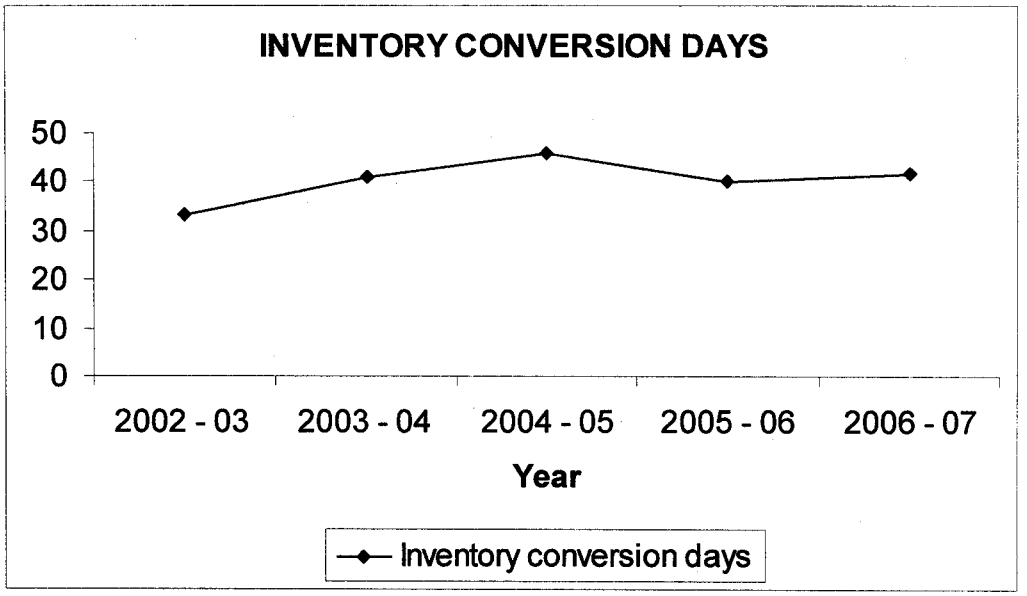


CHART NO. 3.1


INVENTORY CONVERSION DAYS
50
40
30
20
10
0
2002 - 03
2003 - 04
2004 - 05
2005 - 06
2006 - 07
Year
Inventory conversion days

DEBTORS TURNOVER RATIO

A concern may sell goods on cash as well as on credit. Credit is one of the important elements of sales promotion. Debtors turnover ratio indicates the velocity of debt collection of firm.

$$\textbf{Debtors turnover ratio} = \frac{\text{Net credit sales}}{\text{Average debtors}}$$

The higher the value of debtors' turnover the more efficient is the management of debtors or more liquid are the debtors. Similarly, low debtors turnover implies inefficient management of debtors and less liquid debtors.

TABLE 4

DEBTORS TURNOVER RATIO

PARTICULARS	NET CREDIT SALES (Rs. in crores)	AVERAGE DEBTORS (Rs. in crores)	DEBTORS TURNOVER RATIO
2002-2003	34.67	7.86	4.41
2003 - 2004	44.13	7.65	5.77
2004 - 2005	63.36	10.99	5.77
2005 - 2006	64.45	12.66	5.58
2006 - 2007	76.22	15.66	4.87

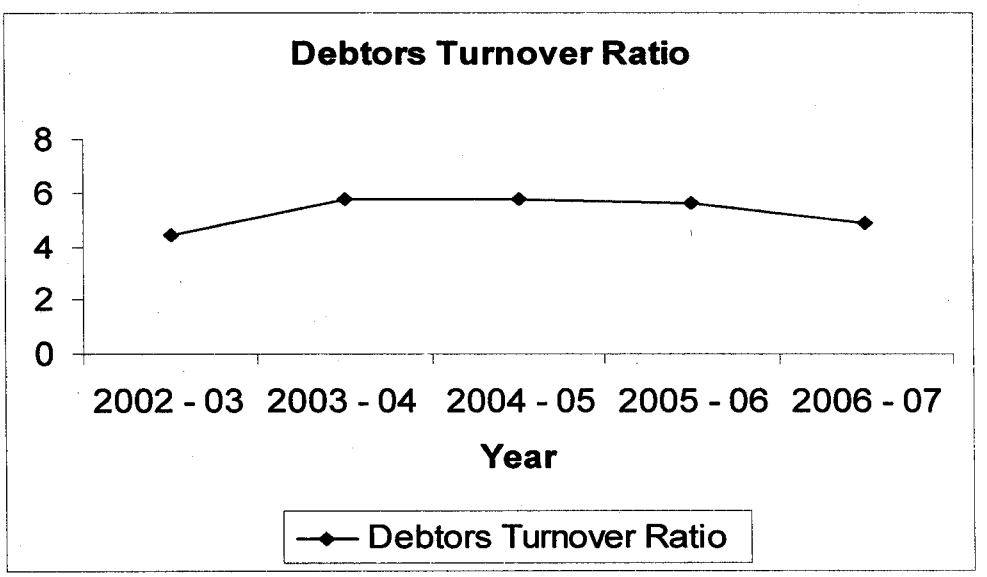
Interpretation:

The debtors turnover ratio for the financial year 2003 is 4.41 and improved to the following two years 2003-04 and 2004-05 to 5.77. From thereon the ratio has decreased to 5.58 and 4.87 in the following years.

Inference:

The management of debtors during the year 2003-04 & 2004-05 seem to be more efficient compared to the previous as well years thereafter.

CHART NO. 4



DEBTORS AVERAGE COLLECTION PERIOD RATIO

The average collection period represents the average number of days for which a firm has to wait before its receivables are converted into cash.

$$\textbf{Average collection period ratio} = \frac{\text{No. of working days}}{\text{Debtors Turnover Ratio}}$$

TABLE 5

DEBTORS AVERAGE COLLECTION PERIOD RATIO

PARTICULARS	DEBTORS TURNOVER RATIO (IN TIMES)	AVERAGE COLLECTION PERIOD (DAYS)
2002 - 2003	4.41	83
2003 - 2004	5.77	63
2004 - 2005	5.77	63
2005 - 2006	5.58	65
2006 - 2007	4.87	75

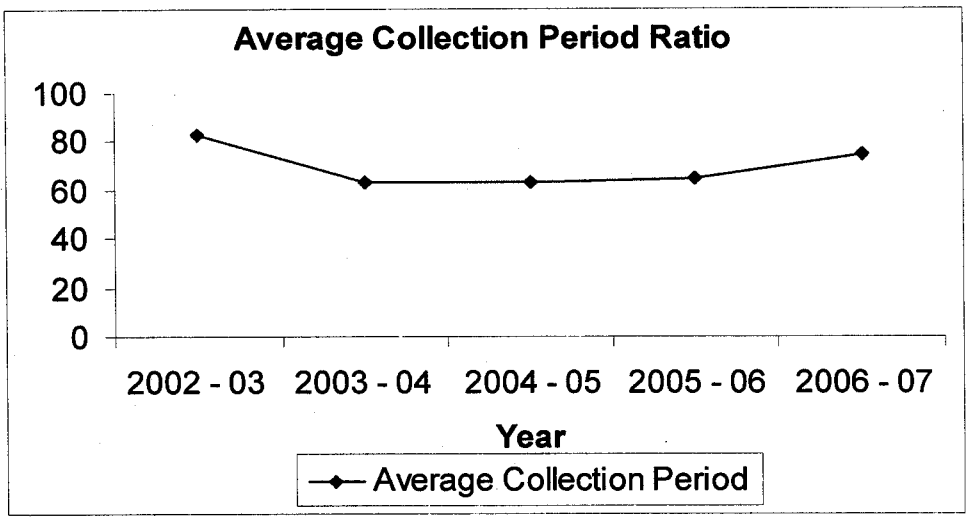
Interpretation:

The table shows that the collection period for the year 2002-03 was much high i.e. 83 days. Whereas the collection period was almost consistent i.e. 63, 63 & 65 days during the years 2003-04, 2004-05 & 2005-06. It was 75 days for the year 2006-07.

Inference:

It could be seen that the collection period is high in the years 2002-03 & 2006-07 and low during 2003-04, 2004-05 & 2005-06.

CHART NO. 5



CREDITORS TURNOVER RATIO

In the course of business operations, a firm has to make credit purchases and incur short-term liabilities. In analysis of creditors turnover ratio, the trade creditors and average daily purchases are taken as component of the ratio.

$$\textbf{Creditors turnover ratio} = \frac{\text{Net credit purchase}}{\text{Average creditors}}$$

TABLE 6

CREDITORS TURNOVER RATIO

PARTICULARS	TOTAL CREDIT PURCHASES (Rs. in crores)	AVERAGE CREDITORS (Rs. in crores)	CREDITORS TURNOVER RATIO
2002- 2003	15.02	3.69	4.07
2003 - 2004	21.28	5.83	3.65
2004 - 2005	32.39	7.22	4.49
2005 - 2006	31.71	9.72	3.26
2006 - 2007	37.39	11.20	3.34

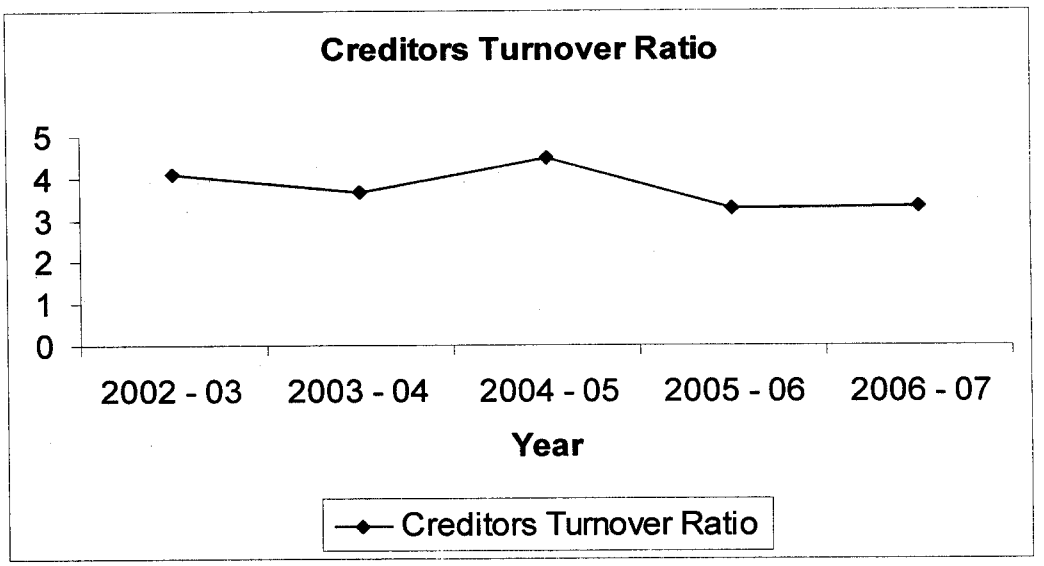
Interpretation:

Creditors turnover ratio for the year 2002-2003 was 4.07 and in the following year it was 3.65. Then during the next 3 years it was 4.49, 3.26 & 3.34.

Inference:

Creditors turnover ratio was high (4.07) during the years 2002-03 which was reduced (3.65) during 2003-04. The value again increased during 2004-05 (4.49) and fallen during the years 2005-06 & 2006-07.

CHART NO. 6



AVERAGE PAYMENT PERIOD RATIO

The ratio indicates the velocity with which the creditors are turned over in relation to purchases. Generally, higher the creditors velocity better it is or otherwise lower the creditors velocity, less favourable.

$$\textbf{Average payment period} = \frac{\text{No. of working days}}{\text{Creditors Turnover Ratio}}$$

A higher payment period implies greater credit period enjoyed by the company and consequently larger the benefit reaped from credit supplies. But the company has to be careful in interpreting this ratio because high ratio may also imply lesser discount availed or higher prices paid for the good purchases on credit.

TABLE 7

AVERAGE PAYMENT PERIOD RATIO

PARTICULARS	CREDITORS TURNOVER RATIO (IN TIMES)	AVERAGE PAYMENT PERIOD (DAYS)
2002 - 2003	4.05	90
2003 - 2004	3.65	100
2004 - 2005	4.49	81
2005 - 2006	3.26	112
2006 - 2007	3.34	109

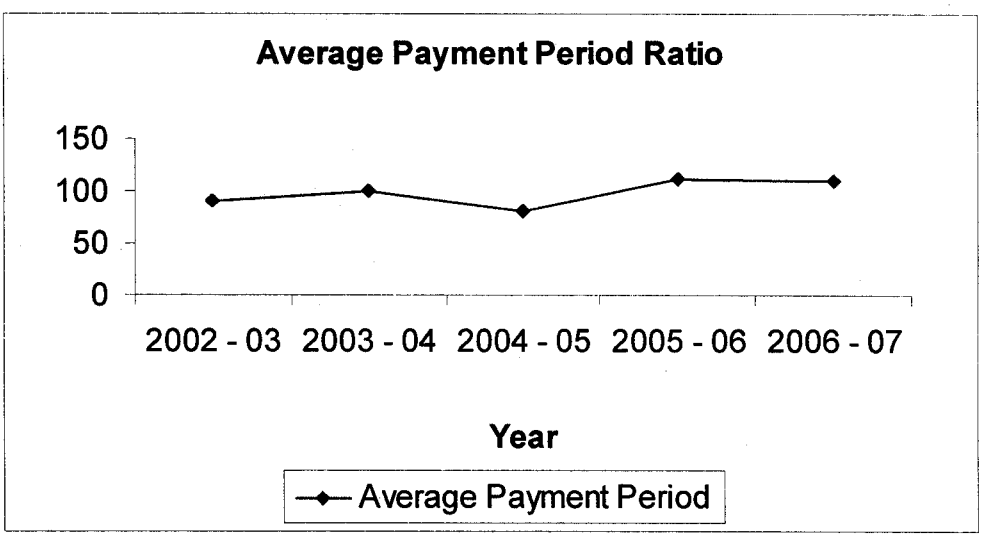
Interpretation:

From the table the payment period was 90 days for the years 2002-2003, 100, 81,112 and 109 days for 2003-04, 2004-05, 2005-06 and 2006-07 respectively.

Inference:

The payment period was 90 days during the 2002-03 which increased to 100 days during 2003-04 which again reduced to 81 days in the year 2004-05 and again increased during the year 2005-06.

CHART NO. 7



RETURN ON INVESTMENT (ASSETS)

The ratio helps in measuring the overall efficiency of the company. The primary objective of any business concern is to maximize its earnings. This ratio indicates the extent to which this primary objective is achieved.

Return on investments= $\frac{\text{Net profit (after interest \& tax)}}{\text{Shareholders fund}}$

As this ratio reveals how well the resources of the company are being used, higher the ratio, better are the results.

TABLE 8

RETURN ON INVESTMENT (ASSETS)

PARTICULARS	NET PROFIT AFTER TAXES (Rs. in crores)	AVERAGE TOTAL ASSETS (Rs. in crores)	RETURN ON INVESTMENT
2002 - 2003	1.46	23.73	6.1
2003 - 2004	2.77	27.82	9.9
2004 - 2005	1.68	37.23	4.5
2005 - 2006	2.74	44.34	6.17
2006 - 2007	3.12	49.65	6.3

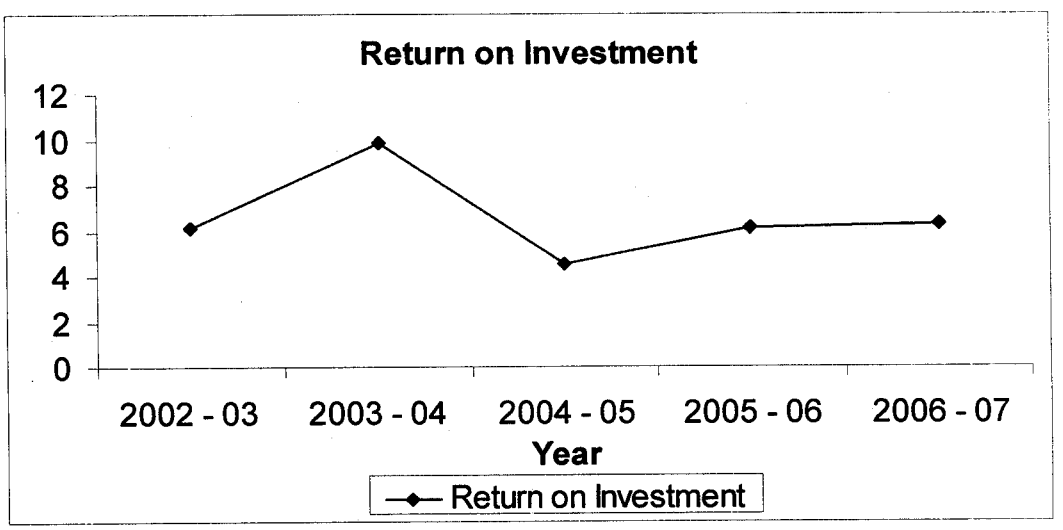
Interpretation:

The above table reveals the ROI ratio was 6.1 for the year 2002-03 and 9.9 during the years 2003-04. The ROI ratio was 4.5 during 2004-05 and it was 6.17 & 6.30 during the year 2005-06 & 2006-07.

Inference:

ROI ratio was 6.1 during 2002-03 showed an upward trend to reach 9.9 in 2003-04, after which it had steep downward trend during 2004-05 i.e. 4.5. But again ROI ratio increased to 6.17 & 6.3 during the year 2005-06 & 2006-07.

CHART NO. 8



RETURN ON CAPITAL EMPLOYED

Return on capital employed establishes the relationship between profits and the capital employed. It is the primary ratio and is most widely used to measure the overall profitability and efficiency of a business.

$$\textbf{Return on capital employed} = \frac{\text{Adjusted net profits}}{\text{Net capital employed}} \times 100$$

The return on capital employed is the primer ratio which measures the efficiency of the business. The study of this ratio is significant since

1. It is a prime test of the efficiency of business
2. The performance of the enterprise can be assessed
3. The borrowing policy of the enterprise may be properly formulated.
4. The credit worthiness of the company can be assessed
5. Helps to devise future business policies

TABLE 9

RETURN ON CAPITAL EMPLOYED

PARTICULARS	EBIT (Rs. in crores)	TOTAL CAPITAL EMPLOYED (Rs. in crores)	RETURN ON CAPITAL EMPLOYED
2002 - 2003	2.63	10.96	24.00 %
2003 - 2004	3.91	13.02	28.01%
2004 - 2005	2.86	17.21	16..30%
2005 - 2006	4.95	20.34	20. 59%
2006 - 2007	5.98	21.41	21. 55%

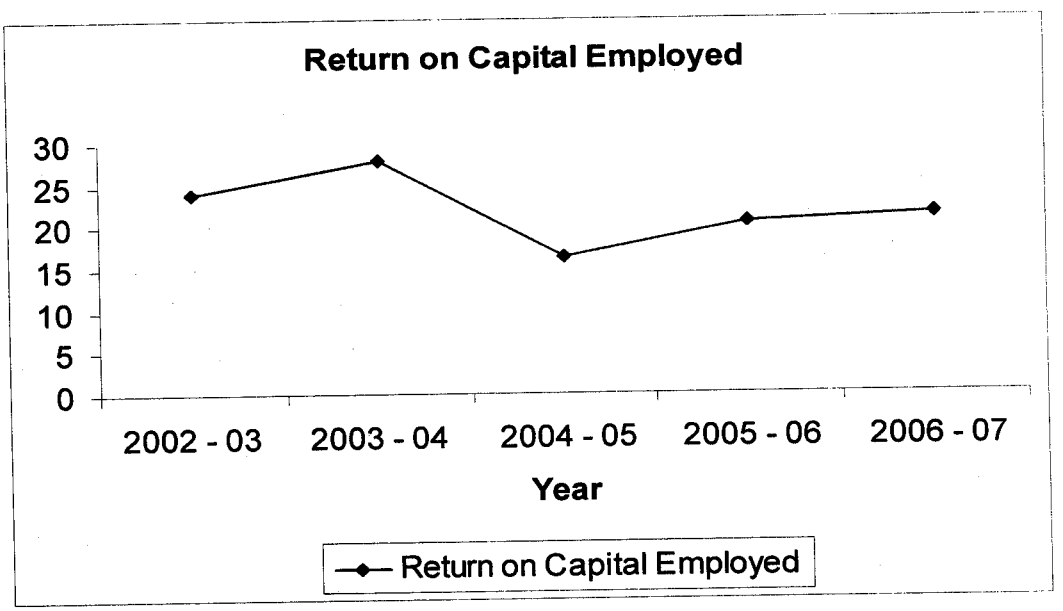
Interpretation:

The above table shows a return of 24% on the capital employed during 2002-03. It was 28% during 2003-04 and in subsequent years the percentages were 16.3%, 20.59% and 21.55%.

Inference:

During the year 2003-05 the return on capital employed was as high as 28% and was as low as 16.3% in the year 2004-05. During the rest of the years it ranges from 21 to 24%.

CHART NO. 9



RETURN ON EQUITY CAPITAL

In real sense ordinarily shareholders are the real owners of the company. Preference shareholders have a preference over ordinary shareholders in the payment of dividend as well as capital. Return on equity capital, which is the relationship between profits of a company and its equity capital.

$$\textbf{Return on equity capital} = \frac{\text{Net profit after tax - preference dividend}}{\text{Equity share capital}}$$

This ratio is more meaningful to the equity shareholders who are interested to know profits earned by the company and those profits which can be made available to pay dividend to them.

TABLE 10

RETURN ON EQUITY CAPITAL

PARTICULARS	NET PROFIT AFTER TAXES (Rs. in crores)	AVERAGE TOTAL SHARE HOLDERS EQUITY (Rs. in crores)	RETURN ON EQUITY CAPITAL
2002 - 2003	1.46	9.06	16.11 %
2003 - 2004	2.77	10.11	27.4 %
2004 - 2005	1.68	11.47	14.65 %
2005 - 2006	2.74	12.93	21.2 %
2006 - 2007	3.12	15.40	20.26 %

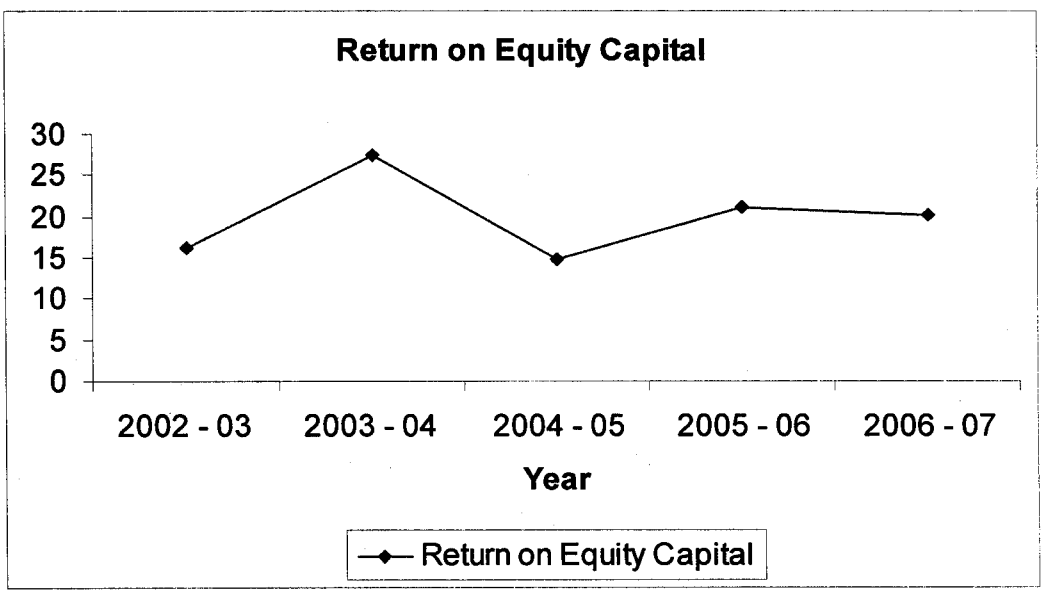
Interpretation:

The table shows that the percentage of return on equity is 16.11% for the year 2002-03 and 27.4% in the year 2003-2004. During the financial years 2004-05 to 2006-07 it was 14.65%, 21.2% and 20.26% respectively.

Inference:

The upward trend is seen from 2002-03 to 2003-04 in the return on equity. But during the year 2004-05 the company has seen a downward trend of return on equity i.e. 14.65%. But again during 2005-06 & 2006-07 there was an upward trend in the return on equity.

CHART NO. 10



WORKING CAPITAL TURNOVER RATIO

Working capital turnover ratio measures the efficiency with which the working capital is being managed or used by the firm. Working capital is the difference between total current assets and current liabilities. Higher ratio indicates efficient utilization of working capital.

Working capital turnover ratio= $\frac{\text{Cost of sales}}{\text{Net working capital}}$

TABLE 11

WORKING CAPITAL TURNOVER RATIO

PARTICULARS	COST OF SALES (Rs. in Crores)	WORKING CAPITAL (Rs. in Crores)	WORKING CAPITAL TURNOVER RATIO
2002 - 2003	32.43	7.32	4.43
2003 - 2004	40.59	7.25	5.59
2004 - 2005	61.56	12.28	5.01
2005 - 2006	60.75	10.95	5.55
2006 - 2007	71.55	13.43	5.32

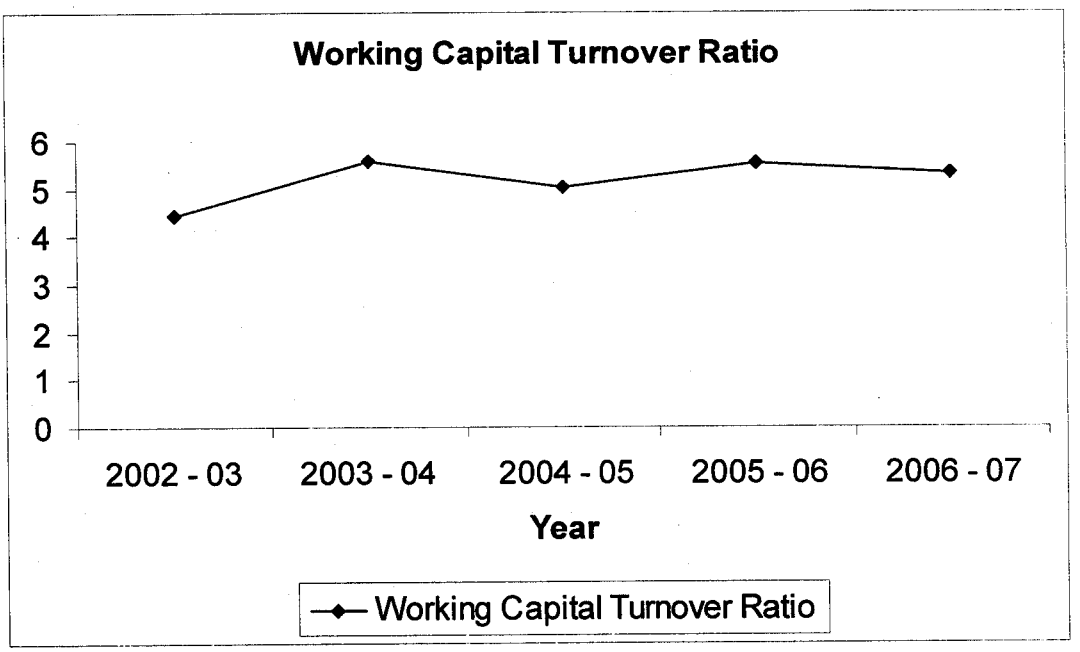
Interpretation:

The working capital turnover ratio for the year 2002-03 was 4.43. For the subsequent years, the values were fluctuating between 5.01 and 5.59.

Inference:

Except for the year 2002-03, the working capital turnover ratio is found to be consistent.

CHART NO. 11



CAPITAL TURNOVER RATIO

Capital turnover ratio is the relationship between cost of goods sold and the capital employed. This ratio is calculated to measure the efficiency or effectiveness with which a firm utilizes its resources.

$$\textbf{Capital turnover ratio} = \frac{\text{Cost of goods sold}}{\text{Capital employed}}$$

TABLE 12

CAPITAL TURNOVER RATIO

PARTICULARS	COST OF GOODS SOLD (Rs. in crores)	AVERAGE CAPITAL EMPLOYED (Rs. in crores)	CAPITAL TURNOVER RATIO
2002 - 2003	32.43	10.96	2.95
2003 - 2004	40.59	13.02	3.11
2004 - 2005	61.56	17.21	3.57
2005 - 2006	60.75	20.34	2.98
2006 - 2007	71.55	21.41	3.34

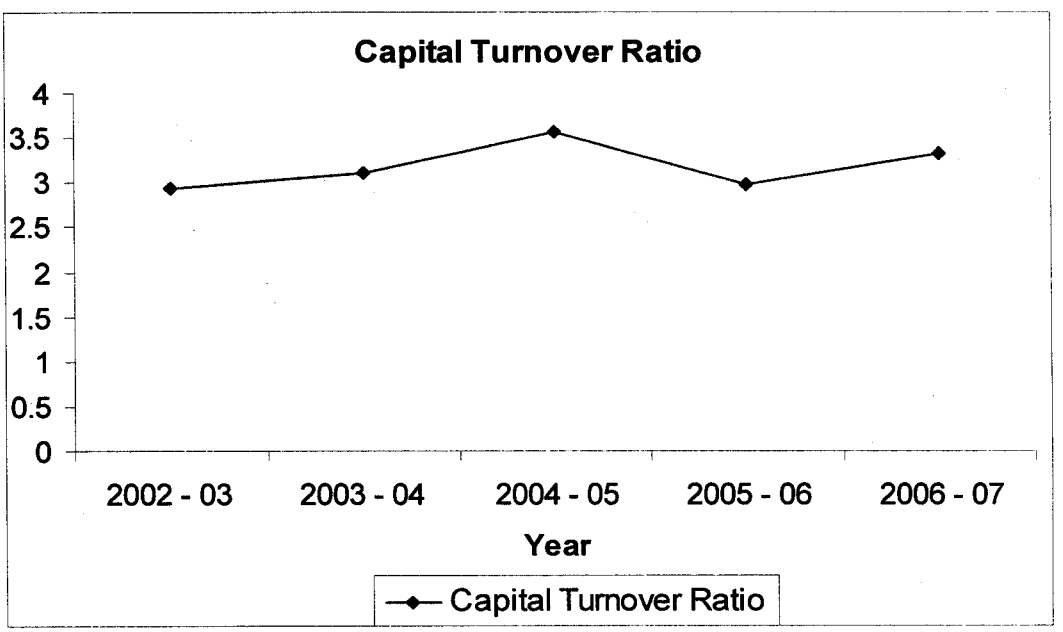
Interpretation:

The capital turnover ratio ranges for the year 2002-03 is 2.95 and 3.11 for the year 2003-04. And the values for the subsequent years are 3.57, 2.98 & 3.34.

Inference:

The values are almost consistent ranging from 2.95 to 3.57. This infers the company is showing an effective mechanism for managing the capital employed.

CHART NO. 12



TREND ANALYSIS

Trend is a general long-term movement in time series value of the variable (x) over a fairly long period of time. The variable y is the factor which we are interested in evaluating for future. If trend can be determined and rate of change can be ascertained, then tentative estimates on same series value into future can be made.

Projection of the following items for the year 2008 & 2009

The method of least square has been used for making projection for profit, expenses, and sales.

The actual figures and the trend values have been plotted in a graph. The method of least square is a method that will give us good estimates of regression co-efficient to avoid individual judgement in constructing lines, parabolas or other approximating curves to fit sets of data. The trend line is called the line of best fit. The actual values and trend values have been plotted in the graph.

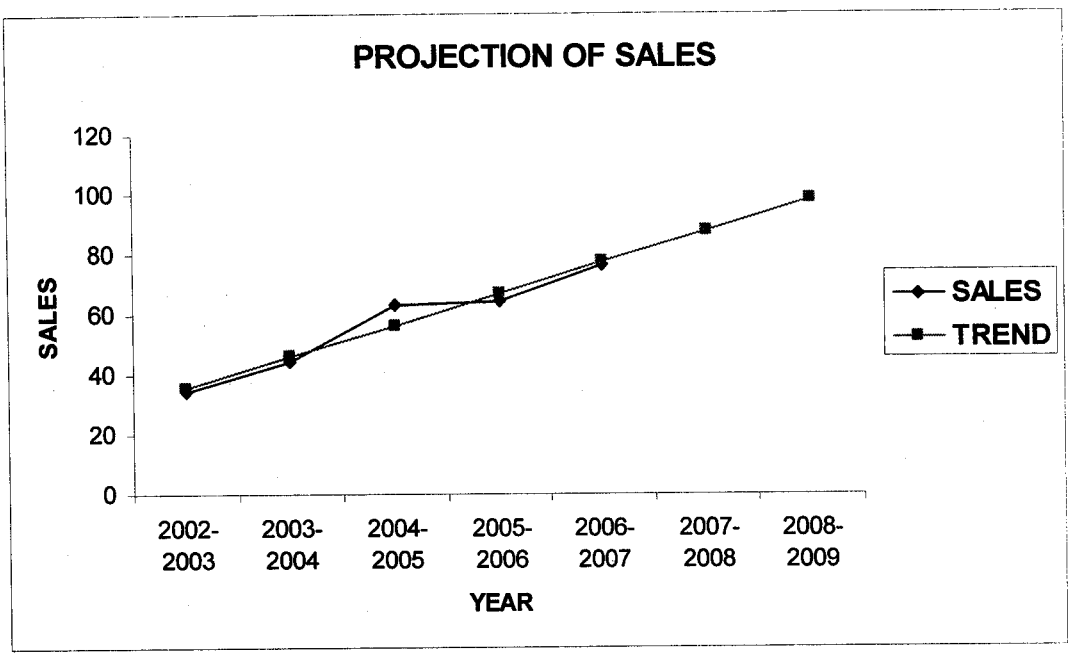
SALES ANALYSIS:

Sales for the years 2002 – 03 to 2006 -07 are 34.68, 44.13, 63.36, 64.45 & 76.22 crores respectively.

Projected Sales

Year	Values (Rs. in crores)
2007-2008	87.58
2008-2009	97.92

CHART NO. 1



Interpretation:

Taking 2002-03 as base years the growth of sales can be analysed. The sales have increased to 44.13 crores during the year 2003-04 from 34.68 crores showing a growth rate of 28%. During 2004-05 the rate of growth is 43%, but in the year 2005-06, it was merely 1.5% and in 2006-07 the rate of growth is 19%. Though the sales show an increasing trend year after year, the rate of growth is inconsistent. So, trend analysis becomes inevitable.

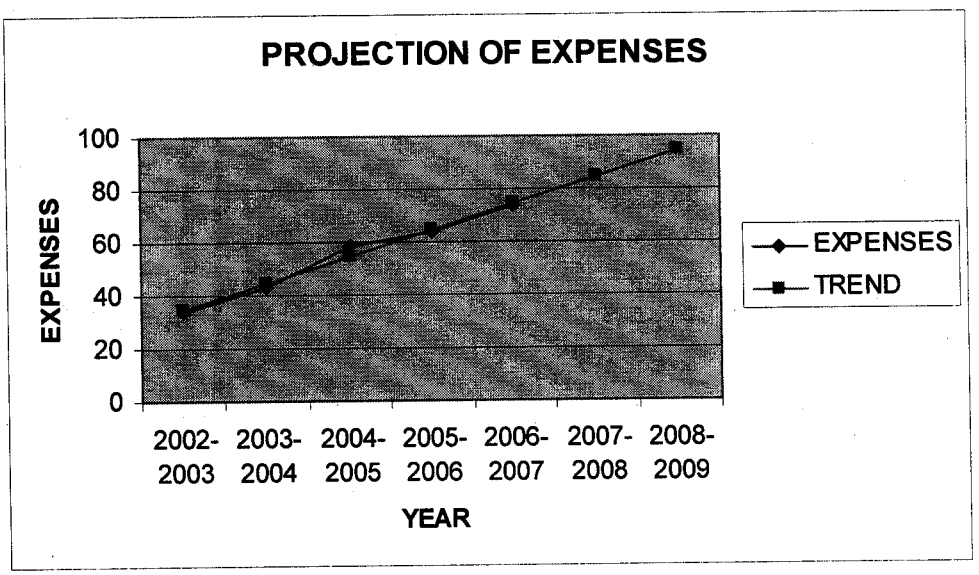
The method of least square is followed to construct the trend line. The trend line is the line of best fit. The actual values and trend values are plotted in the graph and the trend curve is extrapolated. The arrived sales values for the years 2007-08 & 2008-09 are approximately 88 & 98 crores.

EXPENSE ANALYSIS

Expenditure for the years 2002 – 03 to 2006 -07 are 34.15, 43.06, 58.42, 63.70 & 73.9 crores respectively

Projected Expenses

Year	Values (Rs. in crores)
2007-2008	84.65
2008-2009	94.65



Taking 2002-03 as base year, the expense for the next year rose by 26% at 43.06 crores and it was at 58.42 crores in 2004-05 almost 35% increase than previous year. But it was only 10% increase during 2005-06 ending in 63.7 crores and again rose by 16% to 73.9 crores in 2006-07.

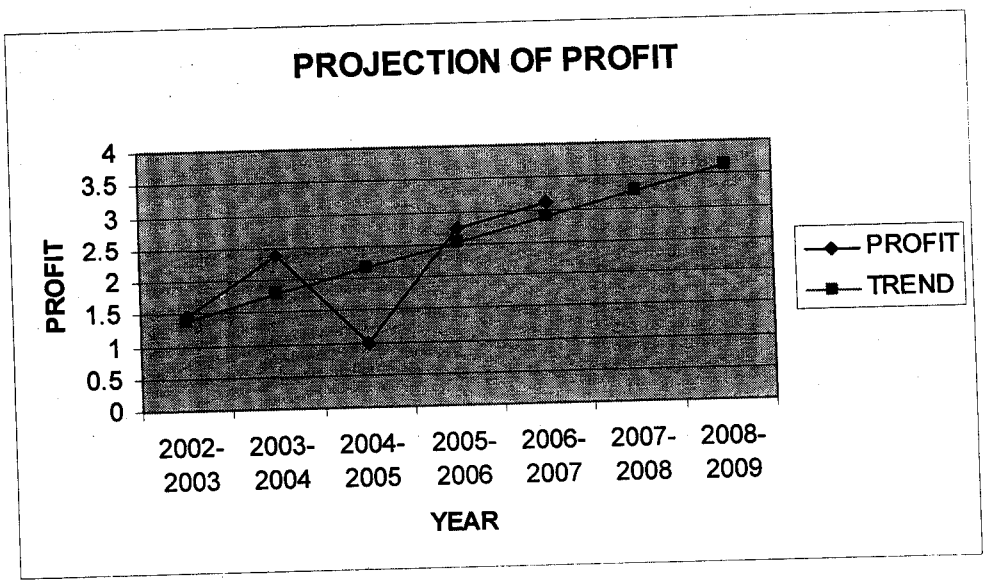
The trend line was constructed using least square method. The actual values and trend values are plotted in the graph and the trend curve is extrapolated. The expected expenditure projected for the years 2007-08 & 2008-09 are 84 crores and 94 crores.

PROFIT ANALYSIS

Profit for the years 2002 – 03 to 2006 -07 is 1.46, 2.36, 1.00, 2.74 & 3.12 crores respectively

Projected Profit

Year	Values (Rs. in crores)
2007-2008	3.25
2008-2009	3.62



Interpretation

Taking 2002-03 as base year, the profit for the next year increased by 61% stood at 2.36 crores and it was at 1.00 crores in 2004-05 almost 57% decrease than previous year. It was only 174% increase during 2005-06 ending in 2.74 crores and increased by 14% to 3.12 crores in 2006-07.

The trend line was constructed using least square method. The actual values and trend values are plotted in the graph and the trend curve is extrapolated. The expected profit projected for the years 2007-08 & 2008-09 are 3.25 crores and 3.65 crores.

FINDINGS

FINDINGS

1. The lesser current ratio during the years 2003-04, 2005-06 & 2006-07 may be attributed to the longer payment period to the creditors.
2. The quick assets taken after deducting the value of inventory has shown a very consistent quick ratio for the five financial years under study.
3. The high inventory conversion period calculated for the years from 2003-04 to 2006-07 may be attributed to the higher level of inventory maintained during this period of time.
4. The decrease in the Debtors turnover ratio may attributed to the longer period taken by the debtors for repaying their outstanding in the years 2005-06 & 2006-07 compared to their payment efficiency in the corresponding previous years. Factors like inflation, competition in the market for the product, credit term extended by the competitors have to be taken into consideration.
5. The collection period has reduced from 83 days in 2002-03 to 63-65 days in the next three years and again increased to 75 days in 2006-07. This is due to influence of debtors turnover ratio. The debtors turnover ratio was low during the years 2002-03 & 2006-07 and high during the years 2003-04, 2004-05 & 2005-06.
6. High Creditors turnover ratio is attributed to the increase in the purchases done by the company during the years 2002-03 & 2004-05 comparing to the years 2003-04, 2005-06 & 2006-07.

7. The longer payment period is the privilege of the company it enjoys over its suppliers. Due to the competition in the market the creditors are extending good credit terms which are favourable to the company.
8. The peak ROI ratio in the year 2003-04 is due to the high NPT during this year and the lowest ROI ratio during the year 2004-05 is due to the reduced NPT in that year. Rest of the years ROI ratio was consistent. This trend may be attributed to the influencing factors like increase in overheads, cost of production, cost of raw materials; bank and others interest rates etc.
9. Here again the factors influencing the profit like cost of material, cost on materials, interest rates etc has to be taken into consideration. Moreover the capital invested in each year has also to be monitored. Even if the EBIT is more for a particular period but if the capital invested in that period is increased then this ratio may show a downward trend.
10. The swinging trend of the return on equity may be attributed to the trend in change of net profit earned by the company during the respective years. The same trend could be seen in the ROI ratio also. Therefore net profit is the significant factor affecting this ratio though there is a pattern change in the average total share holders' equity.
11. The consistent value of the ratio indicates that the company is effectively managing its working capital.
12. Though the ratio is seemed to be consistent, the company can take some efforts in improving the capital turnover ratio.

13. The projected sales for the year 2007-08 and 2008-09 were 88 and 98 crores respectively.
14. The projected expenses for the year 2007-08 and 2008-09 were 84 and 94 crores respectively
15. The projected profit for the year 2007-08 and 2008-09 were 3.25 and 3.65 crores respectively

SUGGESTIONS

SUGGESTIONS

1. Current ratio during the period 2003-04, 2005-06 & 2006-07 which was less than 2, was due to the longer payment period to the creditors i.e. more than 100 days. This may be brought down to 90 days credit period which will result in current ratio of 2 and above. Because of longer payment period, the company may loose the discounts, extended by the suppliers. So, the company has to check for the prices offered by the suppliers.

2. The bills payable can be brought down to improve the current liability. It can be done by reducing the period of payment to the creditors. This might have the company to avail more discounts from the creditors, which will result in increase of the net profit.

3. Since there is no standard rule for maintaining the inventory ratio, the level of inventory may be decided by the managers depending upon certain factors like the nature of business, supplier's mode of supply, inventory carrying cost, production pattern, sales pattern etc.

4. The Debtors turnover ratio can be improved by deciding suitable payment policies for the debtors but taking into consideration of the market forces. An optimum payment terms has to be designed such that the improving debtors turnover ratio without affecting their off take.

5. Delay in collection means the depriving of the working capital for the business cycle. This may lead to the reducing the liquidity position of the company. So suitable policies can be formulated to reduce the

collection period without affecting the sales point of view taking into consideration of various market forces like competition, etc.

6. The optimum purchase quantity and inventory level for the raw materials and other bought out item can be calculated taking into consideration the production pattern, sales pattern, lead time taken by the suppliers etc.

7. Though the longer payment period is favourable to the company. It should also be taken into consideration of the discounts extended by the creditors for their supplies. The company should have a checking mechanism for this. Then and there the company has to check for the prices offered by the creditors comparing with their competitors in the market.

8. The factors influencing the NPT have to be identified. Suitable control techniques have to be implemented to check those factors. For example : Cost of raw materials : As we have already mentioned in the creditors payment period ratio, the longer the payment period, more the cost of purchase and the company may not be able to avail the maximum discount facility from the creditors. So proper check mechanism to be utilized.

9. This ratio is an indicator for the capital invested in the business. Based on this ratio the company can decide about the volume of capital invested.

10. Factors such as Cost of the Goods produced, distribution cost, cost of the fund and many the like factors has to be analyzed to increase the

profit. Suitable strategic policies have to be formulated to improve the same.

11. Though the working capital turnover ratio is consistent the company may put efforts to increase the value by bringing down its cost of sales.

12. The capital turnover ratio can be improved by bringing down the cost of the goods sold which includes factor like cost of materials.

13. Though the sales were showing an increasing trend year after year, the rate of growth is not. So the company can derive few strategies to improve the rate of growth.

14. Expenses in certain years seem to be very high compared to rest of the years. The individual factors like overheads, interests of the fund etc can be studied thoroughly and suitable policies can be formulated to bring the expenses.

15. Again the resulted profit shows an inconsistent trend in its rate of growth. As we have suggested for the expenses, the factors affecting the profit like distribution cost, discounts offered, cost of the raw materials, expenses etc can be closely studied and more concentration can be employed on the factor highly influencing the profit.

CONCLUSION

CHAPTER V

CONCLUSION

Working capital funding is of paramount importance. Even with adequate infrastructure to operate a business, unless the inputs for processing and completion the production cycle are funded, the business cannot continue. After employing adequate fund for the working capital, it is very important that this capital has to be managed properly for the business to run smoothly. The study has been done based on the available secondary data for five financial years. Relevant ratios were used for the analysis and the study concludes that though the company's working capital management is satisfactory level, still there is scope for improvement. The suggestions recommended herein shall be implemented for more efficient use of working capital resources.

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