

# CHAPTER-I

## INTRODUCTION

### 1.1 Background:

Nepal is rich in natural resources situated between two economically improving countries, India and China. It is considerably to be one of the most beautiful charming countries in south Asia. So it has been called the “Switzerland” of the East Nepal is landlocked country. A beautiful chain of snow boundary of high peaks, teaching of lord Buddha and courage of Gorkha and the main charm's and matters are pride of country.

Geographically, Nepal is situated in the Northern hemisphere between 80.4 'e' longitudes with the latitude of 26.22' N to 30. 27' N. It has total land area of 147181 sq. K.M. it has cover 0.3% area of Asia continent and Nepal in extended from east to west with a length of about 885Km and with a width of 193Km from north in average.

Ecologically, the country is divided into three regions, running east to west. They are the mountain Hill and Terai Region of which the Mountain covers 17% of the total land area and the Hill and Terai cover 68% and 15% of total land respectively.

Nepal is a least developed country most of the people engage in agriculture sectors, which is the source of economy. More than 90% of the total population is engaged in this sector. The contribution to the country from agriculture sector is 60% over 85% people of the country live in the rural area.

Agriculture provides raw materials as well as exportable goods. Thus it has been the assign factor for the national trade and commerce. In Nepal, working in the agriculture sectors is traditional method. It has no any advanced tools techniques and equipment in this sector. No facilities of canal, fertilizer, only the hopeful of natural rain. The government of Agriculture is not emphasis to develop to this sector. So, now days about 42% people of total population live below the poverty line. Nepal has been fully trying to develop this problem. It was improving in growth of economy and living standard of the people since the great revolution of 2007 B.S.

### **1.1.1 History of Tea Plantation in Nepal:**

Nepal is an agricultural country, thus it should developed systematically and scientifically for the economic development of the country. It must be mobilized effectively to destroy the poverty of country.

Industry, which is based on agriculture field, as tea industry is most important for the economic development of the country. Tea is most important for all part of the world. In Nepal, mainly there are two types of agriculture products. They are as follows.

- Food crops
- Cash crops

In context of Nepalese agriculture, sector food crops are main product of it. Food crops were produce less than 70% of the total production. They mainly term of Rice, Paddy, Maize, Millet etc. In the other hand cash crops are produce about 30% of the total production. They are Tea, Tobacco, Oilseed, Sugar canes, Coffee and Jute etc.

Today Tea is the major cash crops of the nation. Area under Tea cultivation is increasing every part of the nation in every year. Tea play vital role in national economy from the commercial point of view. Tobacco, Oilseed, Sugar canes, Jute are grown only the terai part but Tea is growing

in both part (i e terai and hill area of eastern Nepal). So the Tea is rapidly extended in the both part terai as well as hill area. Probability of Tea production seems to have high prospectors from the viewpoint of expert promotion and advance employment opportunity. Government has given facilities to the plantation of Tea. Such as, interest discount on loan and subsidies tax payment for the development of Tea industries. The Government of Nepal has announced [Hilam](#) , Jhapa, Dhankuta, Terathum, and Panchthar districts as Tea region.

Now a day, Tea is taken as a beverage it is taken as means of etiquette in most part of the world. Tea contains caffeine, which provides freshness, spirit and excitement in human body. In context to the world, Tea is very old and famous drinks. At first Tea was introduced from China about 2500 years ago. At present Tea plantation is explored in various part of the world. China and India altogether cover more than half quantity of the world Tea production, as other Srilanka, Kenya, and Indonesia, Bangladesh, Argentina, are also producing Tea.

History of the Tea plantation of Nepal is about 200 years old since than small group of Tea bushes have been cultivated by private sector for household consumption.

In the context of Nepal, Tea development is started by Gajraj Singh Thapa in 1920 B.S. and Saktim Tea Estate in 1992 B. S. For the processing of Tea some small scale factory were established Nepal, Tea development corporation on 23<sup>rd</sup> Ashwin 2023 B.S. For the development and expansion of Tea plantation and processing. The investment of private sector in tea farming was started before 45 years ago. The first private sectors Tea estate of Nepal is “Buddha Karan” Tea estate of Jhapa, which is established in 2026 B.S.

Nepal Tea Development Corporation was established company act 2007 in 2023 B.S. After the established of Nepal Tea Development Corporation, It forwards its efforts in expansion of Tea farming. The moment of Tea development became slow in following years. To develop the quantity of Tea, Government of Nepal has promoted the Tea business by formulated “National Tea Policy 2057” in 2057 B.S. According to the National Tea Policy seven Tea estates under National Tea Development Corporation has operated by private sector. After the establishment of Natural Tea Policy act various Tea estate are active in production. After the privatization of Nepal Tea Development Corporation, the volume of the Tea production in private sector is increasing significantly.

## **1.2 A Brief Introduction of Nakalbandha Tea Estate (Pvt.) Ltd.:**

Nakalbandha Tea Estate (Pvt.) Ltd. is established in 2018 B.S. It is located in ward no. 8 of Mechinagar Municipality in Jhapa district. The factory office and Tea garden of Nakalbandha Tea Estate (Pvt.) Ltd. company covers 125 bighas land. It provides CTC Tea. It generates employment to local people and co-operative organizations. Twenty six administration staffs, seventy-five female worker and fifty one male workers are in the factory. Production capacity of the factory is 4000000 Kg. It's products are sales in different parts of Nepal and India.

The marketing strategy of Nakalbandha Tea Estate (Pvt.) Ltd. is simple It has two types of distribution channel.

- Producer – customer.
- Producer- wholesaler – retailer – consumer

NBTE does not have any branch department and agent for sales and sales promotions. It does not follow any advertisement tools due high quality and affordable price provided to the customer. It emphasis the quality and cost control of CTC Tea under the good management of Krishna Pradhan and Rajip Kumar Gupta.

### **1.3 Focus of the Study:**

Economic development is the necessary to the nation prosperity. Similarly, the economic development depends upon industrial development, so the industrialization is called the backbone of economic development. By the help of industrialization economic development can be achieved. It is not only the main support of economical development rather it contributes in the society.

Industrialization is a economic and social process affecting not only the technology standard of a country but also the habit of customer, the way of public thinking and organization of development action, process and events in the life of society people.

In this way, industrialization is a social and economic process as per a major component of development. This effects not only technological sector but also in the changing of customer behavior. In short, it is a radiator of social and economic change on revolution.

Industrialization can't establish without property. The sufficient level of property is important to mobilize the industrialization process. Thus the property is important subject matter of industry. So, it should manage perfect way. Property can be managed by the proper utilization of financial resources. Thus, to empower the financial part of industrialization, a proper management with scientific thought is necessary, which is called financial management.

Financial management is a process of control and operation of financial resources. It is relatively a new field in the area of business management. It was a branch of economics till 1890. Thus, it can be viewed as a form of applied economic and draws heavily an economic concept and principles. In simple sense, financial management is the science of making financial decision. Analyzing past financial outcomes the expected result can be needs as the financial management is concerned with the acquisition, financing and management of assets with some overall goal in mind.

#### **1.4 Statement of the Problems:**

Tea industry can play an active and important role in maintaining the national economy and social development activities. Now a day, tea estates (companies) were also established by private sector. Private companies also are established for profit motive. Nakalibandha Tea Estate (Pvt.) Limited is a profit oriented tea producing of this company is not as good as expected. It is running the normal position.

The company (NBTE) has been invested huge amount of money but achievement of profitability target is far. The company can't utilize its machinery capacity or runs below capacity, and then the cost of production will be high; it is not good affair for the company's financial position. Also, the poor production of product there will be low sales revenue. Low sales revenue can't maintain the increasing cost of production. So the company production declines. It is so because the fixed cost remains constant irrespective of the leave of production. As result profitability will be low.

The researcher of this study will seek the answer to the following questions.

- How far have they able to keep the sound status in terms of financial performance?
- What are the major problems faced by the Nakalbandha Tea Estate (Pvt.) Ltd?
- What does their financial performance indicate? Are they able to meet the financial obligation?

### **1.5 Objective of the Study:**

The researcher is done with an objective to know the financial situation of Nakalbandha Tea estate (Pvt.) Ltd. by using various financial and statistical tools. Other objectives of the study are is follows.

- To know the liquidity position of the company.
- To analyses how efficiently the resources are utilized by the company.
- To identify financial condition of the company.
- To find out the sources and uses of cash.
- To analyses the profitability of the company.
- To analyze the relation between the relevant variables such as sales and production, sales and gross profit etc.
- To suggest and recommend for improvement.

### **1.6 Importance of the Study:**

Financial statement analysis of Nakalbandha Tea Estate (Pvt.) Ltd. shows the fact financial position on the basis of secondary data. Nakalbandha Tea Estate (Pvt.) Ltd. is a medium beautiful tea garden in private sector. Therefore, its performance affects various internal and external parties. They are as follows.

**i) Important to the shareholder:**

Shareholder means they are who purchase the share capital. They are heart of the company. They are not limit and scattered everywhere and they have no time to involve in company's daily work. They only want to know company's financial position in certain time of period. Therefore, this Financial Statement Analysis helps them know about it.

**ii) Important to the Government:**

Government makes the rules and policy according to the position of Nepalese company and people. The policy is not useful if the government is unknown about financial position of company and people. So the financial statement analysis helps to know about company's condition to the government. In this way, the financial statement analysis is also useful for government.

**iii) Important to the customer:**

Customers are the user of company goods. They are blood of the company, without ~~customer~~customer. Want to know company's position and its goodwill etc. They are price controller, e.g. if the price is increased by the company's customer want to know why the price is increased? They are against the company decision. So company decrease the price or to increase the product quality.

**iv) Importance to the creditors:**

Creditors are the financiers of the company. They want to invest their fund in that company. Which is reputed success to earn profit and financial strong because financially weak condition company cannot success to pay interest or principal. Creditors want to know about companies

performance before invest. In this situation, financial statement analysis helps to know about company position.

**v) Importance to the management:**

Management means the higher level of executive and board of director who is directly related the company's overall decision handling the company. Financial analysis is useful for management performs financial statement analysis effectively; company will be strong position or weak in financial position and unable to earn profit, it is also the guideline for the further decision.

**vi) ~~importance~~Importance to employee:**

Employee means those people, who are engaging in company work. They are manual resources of the company. They also want to know about company position because they want to safe their work/ job in future. If the company's position is good, they will run more time but weak position of company, employee loss their job because company will collapse soon. Therefore, it must be important to study about company.

**1.7 Limitation of Study:**

This study confines only to the Financial Statements Analysis of Nakalbandha Tea Estate (Pvt.) Ltd.

- This study is concerned only with the analysis of the Financial Statement Analysis of NBTE the renewal stage.
- This study considers only five years trend and data (i.e. 060/61 to 064/ 65) is analyzed.
- This study is based on mainly on the secondary data. So, the result depends on the reliability of the secondary data.

- Only quantitative methods have been used to measure the financial statement.
- Only the important and useful ratios have calculated.
- The study is based on the data given in the annual report, which shows the financial position only last day of the accounting year, and it may not be relevant for the remaining days of the year. Hence, the conclusions drawn in the present study is based on last day of the accounting year.
- The comprehensive and details study on the subject is one of the limitations for the individual researcher.
- Somewhere information given by the members of management and G.M., Accountant of NBTE are assumed true and correct.
- All the data and information provided by NBTE (Pvt.) Ltd. are assumed true and correct.

### **Research Question**

In order to fulfill the mentioned objective of the study, an attempt has made to answer the following research question.

- What is the liquidity and solvency situation of the company?
- What are the major sources and uses pf the cash of the company?
- How is the financial performance of the company?
- What is the profitability position of the company?

## **1.8 Organization of the Study:**

The study has organized into five chapters. Each chapter clears some important factor of the title of the thesis. Each unit gives the clear picture or road map of the study.

### **i) Chapter-1: Introduction:**

This chapter deals with different aspects of the study consists of background, development of tea plants in Nepal, focus of the study. Limitation Limitation of the study, research question and organization of the study.

### **ii) Chapter-2: Review of Literature:**

In this chapter, an attempt is made to review the books, articles and previous research work to study. There has been included Concept of financial statement, Objectives of financial statement, and Limitation of financial statement and Techniques of financial analysis, Statistical tools analysis and review of related research studies.

### **iii) Chapter-3: Research Methodology**

Research methodology deals with method adopted in carrying out the project. This chapter covers research design, data collection procedure, data processing procedure, period covered, techniques and tools used, productive power of ratio analysis.

### **iv) Chapter-4: Presentation, Analysis and Interpretation:**

This chapter highlights Liquidity ratio, Activity ratio, Leverage ratio, Profitability ratio, Trend percentage analysis and Statistical analysis.

### **v) Chapter-5: Summary, Conclusion and Recommendation:**

In this chapter summary, conclusion and recommendation have presented for achieving financial position of the company at current period.

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# **CHAPTER-II**

## **RIVIEW OF LITERATURE**

### **Introduction**

Review of Literature is one essential part of any research work. In this section, a review of related studies and works will be made. The main objectives of this chapter is to analysts the theory of financial statement analysis with the help of different definition and statement presented by various authors and researchers. It measure the subject theoretically and find out the causes and effects of the case study critically. In addition, it focus the subject matter is to be made to make this discussion more effective and faithful, the overall chapter is derived into the following especial parts.

### **2.1 Meaning / Function of Financial Statement**

Financial Statement are annual documents prepared by the organization or pointed out earlier, financial statement are prepared for the purpose of disclosing the financial position of the business concerns at a point of time and also operating results during the period under review. Thus these are in one sense, the periodical reports about the progress made by the management of the business concerns. Investors, Creditors, and even a layman consider the values shown in these statement to be real and absolute but this is not correct understanding. The values shows in financial statement never convey the current or economic values. The main reason for this contention is that the data contained in the financial statement are the combined result of recorded facts, accounting contentious, postulates and person journal judgment used the application of accounting principals.

Therefore, financial statements are prepared from the accounting maintained by the firm. The generally accepted accounting principles and procedures are followed to prepare these statements. The basic objectives of financial statements are to assist in decision-making.

Financial statements are prepared for the purpose of presenting a periodical review or reports on the progress by the management and deal with,

- The status of investments in the business or Balance sheet, and
- The result achieved during the period under review or Profit and Loss account.

#### **A) Balance Sheet:**

Balance sheet is a statement of assets and liabilities and capital fund. It comprises of a list of assets, liabilities, and capital fund at a given date. It sets for the financial condition of a business concern as contemplated by the accounting records. It also reflects the assets owned by concern and the sources of funds [from creditors and owners] used in the acquisition of those assets. It is prepared in such a way that true financial position is revealed in a firm easily readable and more rapidly understood than would be possible from a view of the details contained in the detailed records prepared during the currency of the financial period. (AICPA) "Balance sheet is only historic rather than prophetic" (AICPA, 2001:29) book of accounts and financial statements are not prepared for the purpose of prophecy. The fact is, business is dynamic while balance sheet is static. It records only periodic changes rather than continuous ones. Balance sheet may be called as a statement of equality in which equality is established representing assets values one side and the values of liabilities and owners' fund on the other side of it.

According to Howard and Upton, “the balance sheet is a statement which reports the property’s values owned by the enterprise and the claims of the creditors and owners against these properties.” (Gupta, S.P., 1990:24) Genstenberg, “the balance sheet shows the nature and amount of all assets owned, the nature and amount of all liabilities and the type and amount of residual investment of the owners in the business.” (Howard and Upton, 1990:24)

**B) Profit and loss account:**

Profit and loss account is also called INCOME STATEMENT. The income statement reflects the earning capacity and potential of the firm. The profit and loss account is the “Score- board” if the firm’s performance during a particular period of time. Since the profit and loss accounts reflects the results of operations for a period of time.

The profit and loss account presents the summary of revenues, expenses and Net income (or Net loss) of a company for a period. Thus, it serves, as a measure of the firm’s probability. Net income, which is an indication of the firm’s profitable operations, is the amount by which the revenues earned during a period exceed the expenses incurred during that period. If the firm’s operations prove to be unprofitable, total expenses will exceed total revenues and the difference is referred to as a net loss. Revenues are the amounts, which the customers pay to the firm for providing them the goods and services. The firm uses economic resources in providing goods and services to the customers. The cost of the economic resources used to earn revenues during a period is called expense. Thus, to determine net income (or net loss) the accounting system matches the expenses incurred during the accounting period against the revenues earned during that period. This matching of expenses with revenue is called matching concept. The time period for which machine is done is called the accounting period. Normally, the accounting period for the business firms is

of one year's duration. Therefore, the income statement is prepared on annual basis.

“The income statement is the scoreboard of the firm performance during a particular period of time.” (Pandey, I.M., 1984:500)

## **2.2 Objectives of Financial statement**

The main objectives of financial statements are to provide necessary information to those person and parties who are interested about the information and must take decision about business activities. The main objectives of financial statements are as follows.

- To provide necessary information about economic activity of the business organization.
- To provide necessary information for decision-making.
- To provide information to the interested parties. (i.e. shareholders, trade union, government etc.)
- To provide information that helps in estimating the earning potential of the enterprise.
- To provide information about changes in economic resources.

## **2.3 Limitation of the Financial Statement:**

Financial statement supply meaningful financial information to those parties who have a need of it and legitimate interest and right to have such information for decision-making. However, it is not far from limitation. The main limitation of financial statement can be point out as follows.

- Financial statement contains only quantitative information, but ignores qualitative aspects.

- Financial statements may contain valueless assets generally; a balance sheet includes goodwill, preliminary expenses and discount on issue and debenture so it does not show the firm's actual position.
- It is based on historical data and information if may not represent the true financial position to date.
- Financial statements do not disclose the correct financial position of the business concern. The financial position of the business concern is affected by several factors (economic, social and financial), but only financial factors are being recorded in financial statements. Social and economic factors are not incorporated in these statements.

## **2.4 Techniques of Financial Analysis**

Financial analysis is the starting point for making plans, before using only sophisticated for casting and planning procedures. Analysis of financial statements is a purposeful and systematic presentation of information in the financial statement by developing relationship between one figure with other in order to measure the probability, liquidity, solvency, operational of efficiency and growth potentiality of the business organization.

Financial performance of a firm can be evaluated by using relevant financial tools and techniques. The analytical tools of financial statement analysis are the ratio analysis, trend percentage analysis and other tool is statistical tools. By the help of these tools, it can be identify the actual position of the related firm these tools have been presented as follows.

### **A) Ratio Analysis:**

Ratio analysis is an important tool of financial analysis. An analysis of financial statement with the help of 'ratio' may be termed as 'ratio analysis.' It is a mathematical relationship between two related items expressed in quantitative form. Therefore, the ratio is the measurement of quantitative relationship between two or more items of financial statement connected with each other. In simple language ratio is one number expressed in terms of another and it can be worked out by dividing one item of the relationship with the other.

Many writers in different definition define ratio analysis. "The indicated quotient of two mathematical expressions and as the relationship between two or more things." (Webster's, 1975: 958)

In financial analysis, "ratio is used as an index of yardstick for evaluating the financial position and financial performance of the firm." (Pandey, I. M., 1992:110)

To focus the important of ratio, "ratio analysis serves the purpose of various parties into rested in financial statements. Primarily the objective of ratio analysis is to help management in analyzing and interpreting the financial statement to get adequate information useful for the performance of various functions like planning, co-ordinations, controlling, communication and forecasting etc." (J.B. Attey)

Now, it is going to discuss about ratio analysis and its items used by various parties. There are various types of ratios, which are used by different parties for their own purposes. The required ratio can be calculated from the information of financial statements. Generally, creditors, investors, shareholders, financial institutions, management etc, are interested to know the financial situation of the firm. The classifications of ratio based on users are:

- Liquidity Ratio
- Turnover Ratio/Activity Ratio
- Capital Structure/Leverage Ratio
- Profitability Ratio

**a) Liquidity Ratio:**

Liquidity ratio measures the short- term solvency of the firm. Liquidity ratios measure the ability of the firm to meet its current obligations. A firm should ensure that it does not suffer from lack of liquidity, and that it does not have excess liquidity this liquidity ratio should neither low and high. Therefore, it is necessary to strike a proper balance between liquidity and lack of liquidity.

In this regard Pandey I.M. says, “in fact, analysis of liquidity needs the preparation of cash budget and cash an fund flow statement, but liquidity ratios, by establishing a relationship between cash and other current obligations, provide a quick measure of liquidity.”

The most common ratios, which indicates the extent of liquidity or lack of it are i) Current Ratio ii) Quick Ratio.

**i) Current Ratio:**

Current ratio is the test of liquidity it evaluates short-term debt paying ability of the firm. It measures the availability of current assets for meeting current liabilities. The ratio is called working capital ratio. It is calculated by dividing current assets by currents liabilities. A ratio of 2:1 is regarded as standard. Current assets are those assets, which are accepted to be converted into cash or consumed in the production of goods and services

in normal course of time. Current liabilities, which fall due for payment in the relatively short period of time.

The objective of computing this ratio is to measure the ability of the firm to meet its short-term obligations and to reflect the short-term financial strength/solvency of the firm.

Generally, the current assets of the firm should be twice the current liabilities to be technically solvent. Higher current ratio indicates that the firm is in liquid position and has ability to pay its current obligations in time as and when they become due. On the other hand, lower current ratio represents that the liquidity position of the firm will face difficulty in payment of current obligation in time. However, a high current ratio may not be favorable because of pile up of stock and slow moving stock. Unsatisfactory debt collection and idle cash balance.

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

**ii) Quick/Liquid Ratio:**

Quick ratio measure the short-term liquidity of the firm but it emphasized the instant debt paying capacity of the firm. Liquidity refers to the ability of a concern to meet its current obligation as and when these become due. The current assets should be either liquid or near liquidity. It includes current assets less stock and prepaid expenses. Liquid ratio is also called acid test ratio. Liquid ratio is calculated by dividing liquid or quick stock by current liabilities and a ratio of 1:1 is regarded as standard.

It shows the ability of the firm to pay off its current obligation without relying on the sales and collection of inventories. It is considered

that if the quick assets are equal to current liabilities, then the firm may be able to meet its short-term obligation without any financial difficulties. A high quick ratio indicates that the firm is liquid and has ability to meet its current liabilities in time and on other hand, a low quick ratio denotes that, the firm's liquidity position is not good.

$$\text{Quick Ratio} = \frac{\text{Liquid /Quick Assets}}{\text{Current liabilities}}$$

**b) Activity/Turnover Ratio:**

“Activity ratios are employed to evaluate the efficiency with which the firm manages and utilizes its assets.” (Pandey, I.M. 1992,120).It is also called turnover ratio. Because they indicate the speed, with which assets converted or turnover into sales activity ratio, thus involves a relationship between sales and assets. A proper balance between sales and assets generally reflects assets are managed well. On this category of ratio includes those ratios, which highlights upon the activity and operational efficiency of the business concern. Several activity ratios can be calculated to judge the effectiveness of assets utilization. They are as follows.

- i) Inventory Turnover Ratio
- ii) Total Assets Turnover Ratio
- iii) Capital Employed Turnover Ratio

**i) Inventory Turnover Ratio:**

Inventory turnover ratio indicates the efficiency of the firm in selling its products or the inventory turnover ratio shows how rapidly the inventory is turning into receivable through sales. Generally, a high inventory turnover is indicating of good inventory management. A low inventory implies excessive inventory levels than warranted by production

and sales activities, or a slow moving or absolute inventory. It is calculated by dividing the cost of good sold by the average inventory.

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of goods sold}}{\text{Average Inventory}}$$

Or

$$\text{Inventory Turnover Ratio} = \frac{\text{Sales}}{\text{Closing Stock}}$$

“Inventory turnover ratio, it may be recanted, indicates the number of times inventory is replaced during the year. In measures the relationship between the cost of goods sold and the inventory level.” (Khan M.Y. Jain P.K., 1992, 111)

#### **ii) Total Assets Turnover Ratio:**

Total assets include current assets, fixed assets and intangible assets. The amount of total assets can also be determined as follows

$$\text{Total Assets} = \text{Current Assets} + \text{Fixed Assets} - \text{Fictitious Assets.}$$

Intangible assets refer to the assets, which have no physical existence like goodwill, copyright, patents etc. In a same way, fictitious assets refers to deferred expenditure and debit balance of profit & loss a/c. The assets of the firm whether fixed on current should be managed efficiently to generate maximum sales through their proper utilization. Total assets turnover ratio is calculated by dividing sales by total assets or intangible assets as follows.

Sales

$$\text{Total Assets Turnover} = \frac{\text{Net Sales}}{\text{Net Assets}} = \dots\dots \text{times}$$

In case of total assets turnover ratio, higher total assets turnover ratio indicates the proper utilization of assets of the firm and vice-versa. It help to show the firms ability of generating sales from the total financial resources available to the firm idle assets lead to lower assets turnover.

**iii) Capital-employed Turnover Ratio:**

A relationship between sales and total capital is represented by this ratio. It is a measure of efficiency of the capital employed in the business. The following formula is used for calculating this ratio.

$$\text{Capital-employed Turnover Ratio} = \frac{\text{Net Sales}}{\text{Capital Employed}}$$

Higher the ratio, the more efficient the management on utilization of capital and vice-versa. Capital Employed includes shareholder equity and long-term liabilities.

**c) Leverage Ratio:**

The leverage ratio also termed as solvency ratio or capital structure ratio. The leverage ratios are calculated to judge the long term financial position of the firm. There ratios measures the enterprise's ability to pay the interest regularly and to repay the principal on maturity.

“The leverage or capital structure ratio may be defined as financial ratio which throws light on the long-term solvency of a firm as reflected in its ability to assure the long-term creditors with regard to i)Periodic payment of interest during the period of the loan and

ii) Repayment of principal on maturity or predetermine installation at due dates.' The following ratios are included in leverage ratio:

- i) Debt-equity Ratio
- ii) Debt to-total Capital Ratio

**i) Debt-equity Ratio:**

The relationship between long-term debts and owner's equity is known as debt-equity ratio. It is a popular measure of the long-term financial solvency of a firm. It is calculated as follows.

$$\text{Debt-equity Ratio} = \frac{\text{Long-term Debt}}{\text{Shareholder's equity}}$$

A high ratio shows the large share of financing by the creditors as compare to that of owners it indicates the margin of safety to the owners. The creditors prefer low debt-equity ratio. A low debt-equity ratio implies large safety margin for creditors.

A high ratio is more risky than low ratio. Higher ratio shows that more of the funds invested in the business are provide by outsider. The lower ratio shows that the owners provide more of the funds invested in the business.

**ii) Debt to total capital Ratio:**

The relationship between the long-term debt and total capital is known as debt to total capital ratio. Total capital includes shareholder's equity as well as long-term debt. This ratio is variation of the debt-equity ratio and gives the similar indication as the debt-equity ratio. The ratio is calculated as follows.

$$\text{Debt to total capital Ratio} = \frac{\text{Long-term Debt}}{\text{Capital Employed}}$$

Capital Employed = Share capital + Retained earning + Long-term debt

A low ratio represents security to creditors in extending credit. On the contrary, a high ratio represents a greater risk to creditors as well as shareholders.

#### **d) Profitability Ratio:**

Maximization of profit is the main objective of each business firm. It is lifeblood of every business concern. Without profit, the life of business is no more. Therefore, it is very important to earn profit for the successful running of business enterprises. According to Lord Keynes, Profit is the engine drives the business enterprises. The profit is also important to preserve the existence of business as well as strengthen and expand it.

The profitability ratio is related to profit. It shows the overall efficiency of the business concern. The earning capacity of the business is measured by profitability of business concern. It may be measured in two ways.

- i) Profitability in relation to sales
- ii) Profitability in relation to investment.

The types of profitability ratio are as follows.

- i) Operating Ratio
- ii) Gross Profit Ratio
- iii) Net Profit Ratio
- iv) Return on Assets Ratio

“The profitability ratios are calculated to measure the operating the operating efficiency of the company.” (Pandey, I. M., 1992:120)

**i) Operating Ratio:**

Operating ratio try to establish relation between operating cost and net sales. Operating cost includes cost of goods sold and operating cost like administrative expenses, selling expenses, distribution expenses, interest on short-term loan, discount, bad debts etc. Net sales equals of sales minus returns. This ratio is calculated to determine the operational efficiency of the management and expressed as a percentage. The ratio is computed as follows:

$$\text{Operating Ratio} = \frac{\text{Operating Cost}}{\text{Net Sales}}$$

**ii) Gross profit Ratio:**

This ratio expands the relationship between gross profit and sales. The calculation of this ratio is done based on total profit and sales. Generally, it is expressed in percentage. The ascertainment of gross profit is completed by reducing cost of good sold from sales. The formula of this ratio is as follows:

$$\text{Gross profit ratio} = \frac{\text{Gross Profit}}{\text{Sales}} \dots\dots \text{percentage}$$

A higher ratio is a sign of efficient management, which reflects lower cost of goods sold and maximizing profit, on the other, a low ratio may reflects higher cost of goods sold due to the firm’s inability at favorable terms.

**iii) Net Profit Ratio:**

From this ratio, the relation between sales and net profit becomes clear. The amount after subtracting the whole operating expenses, income tax, interest etc. from the gross profit is known as net profit. To ascertain this ratio, the net profit is divided by sales. The formula for ascertainment of this ratio is under,

$$\text{Net Profit Margin} = \frac{\text{Net Profit}}{\text{Sales}}$$

A higher ratio is an indicating of the higher over all efficiency of the business and better utilization of total resources. Poor financial planning and efficiency is the indicating of lower ratio.

**iv) Return on Assets Ratio:**

This ratio establishes the relation between net profit and total assets. This ratio is also called to profit to assets ratio. It is shown in percentage. The Ascertain it, different formula can be used, which is as, follows.

$$\text{Return on Assets Ratio} = \frac{\text{Net Profit after Tax}}{\text{Total Assets}}$$

This ratio measure the profitability of all financial resources invested in the firm's assets. Hence, the higher ratio implies that the available sources and tools are employed efficiently.

## **B) Statistical Analysis:**

Beside financial tools, some statistical tools can be used to analyze the data, they can be studied as follows,

### **i) Mean:**

The most popular and widely used measure of representing the entire data by one value what most laymen call an 'Average' and what the statistician call the arithmetic mean. Its value is obtained by adding together all the items and by dividing this total by the number of items. Arithmetic mean either may be simple arithmetic mean or weighted arithmetic mean. The arithmetic mean of a simple is denoted by the symbol  $\bar{x}$ . The Greek letter 'μ' pronounced as 'Mu' designates which is read 'x-bar' and the arithmetic mean of a population.

### **ii) Standard Deviation:**

The standard deviation concept was introduced by Karl Pearson in 1823. It is by far the most important and widely used measure of studying dispersions. Its significance lies in the fact that it is free from those defects from which the earlier methods suffer and satisfies most of the properties of a good measure of dispersions. Standard deviation for the reason that it is the square root of the mean of the squared deviations from the arithmetic mean. Standard deviation is denoted by the small Greek letter (read as sigma)

The standard deviation measures the absolute dispersion (or variability of a distribution, the greater the amount of dispersion or variability) the greater the standard deviation, for the greater will be the magnitude of the deviations of the values from their mean. A small standard deviation means a high degree of uniformity of the observation as well as

homogeneity of a series, a large standard deviation means just opposite. Thus, if we have two or more comparable series with identical or nearly identical means, it is the distribution with the smallest standard deviation is extremely useful in judging the representation of the mean.

**iii) Coefficient of Variation:**

The standard deviation discussed above is an absolute measure of dispersion. The corresponding relative measure is known as the coefficient of variation. This measure developed by Karl Pearson is the most commonly used measure of relative variation. It is used in such problems where we want to compare the variability of two or more than two series. That series (or group) for which the coefficient of variation or conversely less consistent, less uniform, less stable or homogeneous. On the other hand, the series for which coefficient of variation is less is said to be less variable or more consistent, more uniform, more stable or more homogenous. Coefficient of variation is denoted by C.V. and is obtained as follows;

$$\text{Coefficient of Variation} = \frac{u}{\underline{x}}$$

**iv) Correlation Analysis:**

The degree of relationship between the variables under consideration is measured through the correlation analysis. The measure of correlation called the correlation coefficient or correlation index summarized in one figure the direction and degree of correlation. “ the correlation analysis refers to the techniques used in measuring the closeness of the relationship between the variables.”

The correlation is a statistical device, which helps us in analyzing the co variation of two or more variables. The problem of analyzing the relation between different series should be broken down into three steps.

- i) Determining whether a relation exists and, if it does, measuring it.
- ii) Testing whether it is significant.
- iii) Establishing the cause and effect relation, if any.

**v) Coefficient of Correlation:**

Of the several mathematical method of measuring correlation, the Karl Pearson method, popularly known as Pearson's coefficient of correlation, is most widely used in practice. The Pearson coefficient of correlation is denoted by the symbol r. It is one of the vary few symbol that are used universally for describing the degree of correlation two series. The formula for computing Pearson r is

$$r = \frac{\sum xy}{N u_x u_y}$$

$$u_x = x - \bar{x}, u_y = y - \bar{y}$$

$u_x$  = Standard Deviation of Series x

$u_y$  = Standard Deviation of Series Y

N= Number of Pairs of observations

r= The Correlation Coefficient

This method is to be applied only where deviation of items is taken from actual mean and not from assumed mean. The value of the coefficient of correlation as obtained by the above formula shall always lie between +1 to -1. Where  $r = +1$ , it means there is perfect positive correlation between the variables,  $r = -1$ , it is perfect negative correlation between the variables.  $r = 0$ , there is no relationship between the two variables.

**vi) Regression Analysis:**

Regression analysis reveals average relationship between two variables and this makes possible estimation or predication or regression is

the statistical tool, which is used to determine the statistical relationship between two or more variables and to make estimation (or predication) of one variable on the basis of the other variable. Assuming that the two variables are closely related, we can estimate the value of the one variable from the given value of another for example if we know that the yield of rice and rainfall are closely required to achieve a certain production figure.

“Regression is the measure of the average relationship between two or more variables in terms of the original units of the data. Or the term ‘regression analysis’ refers to the methods by which estimates are made of the value of a variable from a knowledge of the value of one and more other. Variables and to the measurement of the errors involved in this estimation process.” Marris Hambarry

It is clear from above definitions that regression is a statistical device with the help of which we are in a position to estimate (or predict) the unknown values of one variable from known values of another variables. The variable, which is used to predict the variable of interest, is called the dependent variable or ‘explained variable.’ The independent variable is denoted by  $x$  and the dependent variable by  $y$ . The analysis used is called the simple liner regression analysis. Simple because there is only one predictor or independent variable, and liner between the dependent and the independent variables.

**vii) Time Series Analysis:**

On the most important task before economists and businessperson these days to us to make estimates for the future. For example, a business is interested in finding out his likely sales in the year 1980 or as a long term planning in 2002 or the year 2009 so that he could adjust his production according and avoid the possibility of either unsold stock or inadequate production to meet the demand however, the first step in making estimated for the future consists of gathering information from the

past. In this connection, one usually deals with statistical data, which are collected, absorbed or recorded at 5 successive intervals of time. Such data are generally referred to as 'time series'. This when we observe numerical data at different points of time the set of observation is known as time series. Hence in the analysis of time series, time is the most important factors because the variable is related to time which may be either year, month, week, day, hour, or even minutes or seconds.

A few definition of time series are given bellow, "A time series may be defined as a collection of time magnitudes belonging to different time periods, of some variable or composite of variables such as production of steel, per capita income, gross national production, price of tobacco, or index of industrial production." Ya-Lun-Chou.

It is clear from above definitions that time series consists of data relating to population, per capita income, price, production, etc for the last 5,10,15,20 years or some other period, the series so emerging would be called time series.

The analysis of time series is of great significance not only to the economist and businessperson but also to the scientist, astronomies, geologist, sociologists, biologists, research workers, etc for the reason below.

- It helps in understanding past behavior.
- It helps in planning future operations.
- It helps in evaluating correct accomplishments.

#### **viii) Trend Percentage Analysis:**

Trend percentage analysis is a tool for analyzing financial performance, which indicates the direction of change. The change and deviation on item of financial statement of a number of a year can be analyzed by determining and studying the data shown on the statements.

Trend analysis refers to the position of favorable or unfavorable of variable in the given period of time with the base year and its helpful to identify the controllable items of financial and operation data contained in the balance sheet and income statement. “In order to express the figure in term of percentage, the comparative figures of the financial statement are analyzed by calculating percentage. Further, the percentage of one period is compared with the base years percentage usually a particular past year in chosen as a base years and all item of financial statements for that year are taken as 100%. There is no doubt that expressing the figure in terms of percentage is a more practical approach for the analysis, interpretation and study of facts and figure. Thus the change in figures expressed in terms will disclose the trends or changes that are occurring in financial and operational data to judge whether the trends are favorable or unfavorable.” (Chaudhary, Anil & Roy, B. 1985:34)

“The method involves the calculating of percentage relationship each item bears to the same items in the base year. Trend percentage relationship each item in the financial and operating data between specific period and make possible for the analysts to form an opinion as to whether favorable or unfavorable tendencies are reflected by data.” (Gupta, R. L., 1976:15)

An analysis of the trend of certain business facts is extremely helpful in budgeting and forecasting with comparative study of the financial statement of several years. Trend analysis involves the calculation of percentage relationship that each item of financial statement bears to the same item in the base year or for trend analysis, the use of index number is generally advocated. The procedure followed is to assign the number 100 to items of the base year and to calculate percentage changes in each item of other year in relation to the base year. This procedure may be called as trend percentage method.

## **CHAPTER-III**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction:**

Research methodology refers to the various sequential steps adopted by a research in studying a problem with certain objectives I view .In other word research methodology is the research method of techniques used for the same entire study. Financial structure is the matter of great important in the contest of business firm .Therefore, this study basically related with the financial aspect of the NBTE to achieve these objectives the study requires an appropriate research methodology.

A systematic research study needs to follows a proper methodology to achieve the predetermined objectives. Thus, the research methodology adopted in this research work in mentioned below.

#### **3.2 Research design:**

A research design is the arrangement of condition for collection and analysis of data in a manner that aims to combine relevance to the research propose with economy procedure. Design is a systematic planning structure and strategy for conducting a particular research work. It provides the framework of the study.

The research design is analytical and description as per the need of classification and arrangement of research work. To analysis the various item of financial statement analytical method is used. Different statistical approaches have been applied wherever needed.

### **3.3 Data Collection Procedures:**

Information is the lifeblood of any research information can be collected from various resources. They can broadly classification;

- Primary Sources
- Secondary Sources

Data is a major task for the researcher. In this study basically secondary data have been used as well as the primary data also taken. Secondary data i.e. profit and loss a/c and balance sheet are the main sources of data. So the study is based on the fact and figures collected from the profit and loss a/c and balance sheet of Nakalbandha Tea Estate Pvt. Ltd., according to the objectives of the study, all the secondary data compiled processed and tabulated. In order to judge the reliability of data provide by the Tea Estate. They were compiled with the annual report of auditor. In order to obtain the concerned head of the department of the Tea Estate, similarly, magazine report of auditor generals office available previous research works and other relevant published and unpublished document and reports from the various sources of NBTE. Library consolidation and review of earlier studies were also made to collect the required data.

### **3.4 Period Covered:**

Time is very important for the research work. This study covered the last five years financial data of NBTE. (I.e. from 2060/061 to 2064/065) whose auditing has been completed. The statements requires for the study period are collected from the NBTE.

### **3.5 Data Collection Procedure:**

In order to process the data, financial statement and other available information were reviewed. These data were grouped in different tables and chart, hectograph according to their nature. Interpretations and

explanation were made wherever necessary with help of ratio analysis, regression analysis and trend percentage analysis. To clarify the significance of the collected data different statistical tools will be use when needed.

### **3.6 Analytical Tools Used:**

After the process and tabulation of data, different financial and statistical tools are used for the purpose of analysis. Ratio analysis, statistical analysis and Tend percentage analysis are used in research work is as follows.

#### **3.6.1 Ratio Analysis:**

Ratio analysis is a powerful tool of financial analysis, which helps identifying financial strengths and weakness of firm. It is a mathematical relationship between two related items expressed in quantitative form. Ratio is calculated by dividing one item of the relationship with other.

To calculate the performance of an organization by creating the nation forms the figure different accounts consisting in Balance sheet and Income Statement as known as Ratio Analysis.

A large number of ratios can be generated from the components of Profit and loss a/c and Balance Sheet. Different types of ratio can be calculated which are Liquidity, Leverage and Profitability, Activity ratio. This study used some important ratio are as follows;

##### **i) Liquidity Ratio:**

liquidity Ratio are establishing a relationship between cash and other current assets when the firm has sufficient current assets as compared to current liabilities, that position of firm is called liquidity position. It reflects the short-term solvency of the firm. These are two ratios which are used under liquidity ratio. They are:

- a) Current Ratio
- b) Quick Ratio

The formula for calculating current ratio and quick ratio are as follows.

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} \dots\dots\dots\text{times}$$

$$\text{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Current Liabilities}} \dots\dots\dots\text{times}$$

**ii) Activity Ratio:**

Activity ratio is ratio, it is employed to evaluate the efficiency with which the firm manages and utilizes its assets. It's defining the relationship between firm's sales and various assets of a firm. Or this category of ratio includes those ratios, which highlight upon the activity and operational efficiency of the business concern. Several activity ratios can be calculated to judge the effectiveness of assets utilization. They are as follows;

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of goods sold}}{\text{Average Inventory}}$$

Or

$$\text{Inventory Turnover ratio} = \frac{\text{Sales}}{\dots\dots\dots}$$

$$\text{Average Inventory} = \frac{\text{Opening Stock} + \text{Closing Stock}}{2}$$

Where, Cost of goods sold = Sales - Gross Profit

$$\text{Debtors Turn Over Ratio} = \frac{\text{Sales}}{\text{Closing Stock}} \dots\dots \text{Times}$$

$$\text{Total Assets Turnover Ratio} = \frac{\text{Sales}}{\text{Net Assets}} \dots\dots\dots \text{Times}$$

$$\text{Fixed Assets Turnover Ratio} = \frac{\text{Sales}}{\text{Net Fixed Assets}}$$

$$\text{Capital-Employed Turnover Ratio} = \frac{\text{Net Sales}}{\text{Capital Employed}}$$

Where, Capital Employed = Total Liabilities – Total Current Liabilities

**iii) Leverage Ratio:**

These ratios indicate whether the firm is financially, sound and solvent as far as its long-term obligation are concerned. This measure the business ability to pay interest regularly and to repay the principal on the due

dates. There are various ratios to judge the long-term solvency of the concern. Leverage ratios are calculated in following ways;

$$\text{Debt-equity Ratio} = \frac{\text{Long term Debt}}{\text{Shareholder equity}} \dots\dots\dots\%$$

Or

$$\text{Debt equity Ratio} = \frac{\text{Total Debt}}{\text{Shareholder Fund}} \dots\dots\dots\%$$

Where, Shareholder Equity= [Share capital +P/L (gain)-P/L (loss)]

$$\text{Debt to Total Capital Ratio} = \frac{\text{Long Term Debt}}{\text{Capital Employed}}$$

Or

$$\text{Debt to Total Capital Ratio} = \frac{\text{Total Debt}}{\text{Permanent Capital + Current Liab.}}$$

Liab. =Liabilities

Where, Total Debt = Long Term Debt + Total Current Liabilities

**iv) Profitability Ratio:**

Profit is essential for survival of the business every firm has social responsibility but without profit it is not possible. The relation of the return of the firm to either its sales or its equity or its assets is known as profitability ratios. It is calculated in relation to sales and investment to

measure the operating efficiency of the firm. Some important profitability ratios are as under.

$$\text{Operating Ratio} = \frac{\text{Cost of Good Sold} + \text{Operating Expenses}}{\text{Sales}}$$

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Sales}} \dots\dots\%$$

$$\text{Net Profit Ratio} = \frac{\text{Net Profit}}{\text{Sales}} \dots\dots \%$$

$$\text{Return on Assets} = \frac{\text{Net Profit after Tax}}{\text{Total Assets}} \dots\dots \%$$

### **3.6.2 Profit And Loss Account:**

The profit and loss account presents the summary of revenues, expenses and net income and net loss of a company for a period of time. The profit and loss account is the score board of the firm's performance during a particular period of time. Since the profit and loss account reflects the result of operations for a period of time. It is also called income statement.

### **3.6.3 Balance sheet:**

Balance sheet as a statement of assets, liabilities and capital fund. It sets forth the financial condition of a business concern as contemplated by the accounting records. It also reflects the assets owned by

concern and the sources of funds (firm's condition and owners) used in the acquisition of those assets.

The relationship in both side of the balance sheet may rightly be called 'Identity' and not 'Equality' from this point of view; a balance sheet is called a statement of financial position of a business concern. It is only a listing of sources and uses of capital.

#### **3.6.4 Trend percentage Analysis:**

Trend percentage analysis is a tool for analyzing financial performance, which indicates the relation direction of change. The change and deviation on item of financial statement of a number of year can be analyzed by determine and studying the data shown on the statement. Trend analysis refers to the position of favorable or unfavorable variable in the given period of time with the base year and its helpful to identify the controllable items of financial and operation data contained in the balance sheet and income statement.

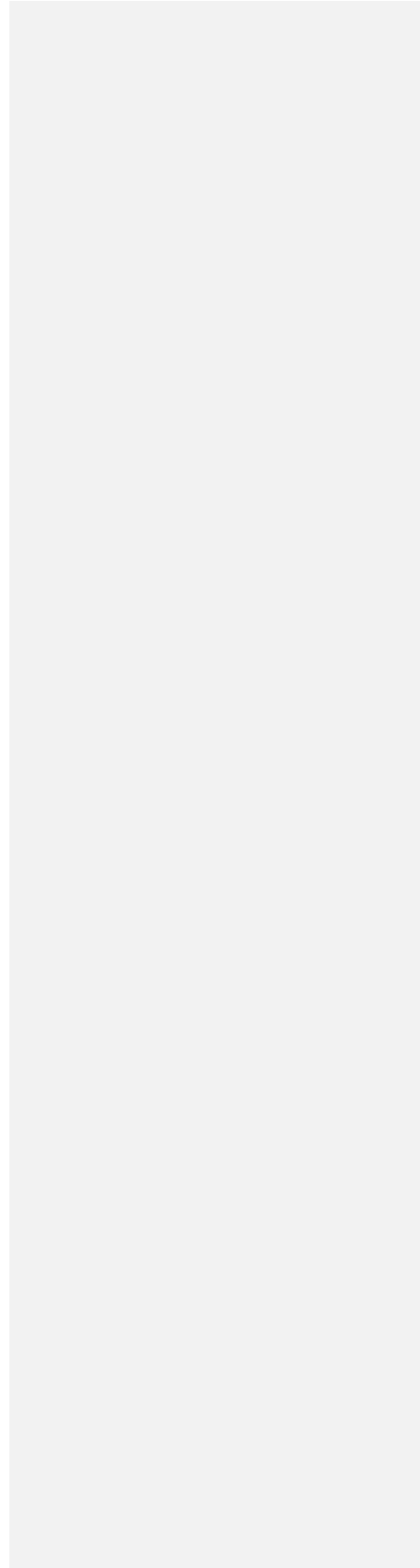
#### **3.6.7 Statistical Analysis:**

Besides financial and accounting tools some statistical tools used to analysis the data, they are as follows;

- Mean
- Standard Deviation
- Correlation Analysis
- Coefficient of Correlation
- Regression Analysis
- Trend Percentage Analysis

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# CHAPTER IV

## Presentation and Analysis of Data

This chapter is the central part of the study. The basic objectives of this study have already mentioned in first chapter in order to achieves several financial and statistical tools have been used which were described in chapter three. New in this chapter, the efforts have been made to analyze and different figures and tables are used to make the analysis more simple and understandable.

### 4.1 Analysis of financial variables

#### 4.1.1 Ratio Analysis

An analysis of financial statements with the help of ratio may be termed as ratio analysis. Various ratios were used in this analysis.

- i. Liquidity Ratio.
- ii. Activity ratio
- iii. Leverage ratio
- iv. Profitability ratio.

#### i) Liquidity ratio :

Liquidity ratio miscues the short-term solvency position of the company and reflects the short-term financial strength of the firm-short term liquidity involves the relationship between current assets and current liabilities. If the liquidity ratio of the firm is not enough it will result bad or poor in credit ration low creditor confidence eventually may lead to the bankruptcy of the firm unable to meet its obligation, again if the firm has high degree of liquidity funds there

will be unnecessary idle funds. It is not good for firm therefore, it is necessary to strike a proper balance between liquating and are calculated in order to know whether the firm in maintaining appropriate level of liquating or not under this ratio we calculate two types of ratios i.e.

- Current ratio
- Quick ratio
- Current ratio

Current ratio is the test of liquidity. It evaluates short-term debt paying ability of the firm. It measures the availability of current assets for meeting current liabilities. This ratio is also called working capital ratio.

Current ratio is calculated by diving current assets by current liabilities, generally the current assets of the firm should be solvent. Technically solvent means the fir is abl3e to meet its current obligation duty as and when they became due A high ratio is the indication of excessive amount of current assets failure management to utilize the firms resources properly. Similarly, lower Current ratio represents that the liquidity position of the firm is not good and the firm will face difficulty in payment of current obligation in time

In the study of Nakalbandha Tea Estate Pvt. Ltd. we found that amount cash at bank , inventory and sundry debtors were included into current assets. Its current laborites provident fund payable and outstanding liabilities. Now current ratio of NBTE for study period in presented as below.

**Table No 4. 1**  
**Current ratio**

Fiscal Year	Ratio (Time)	Growth rate
060/061	2	100
061/062	1.89	94.5
062/63	1.86	98.41
063/64	1.85	99.46
064/65	2.13	115.14

Source: From Appendix-1

$$\bar{x} = 1.946$$

$$S. D (\bar{0}) = 10.63\% \text{ or } 0.1069$$

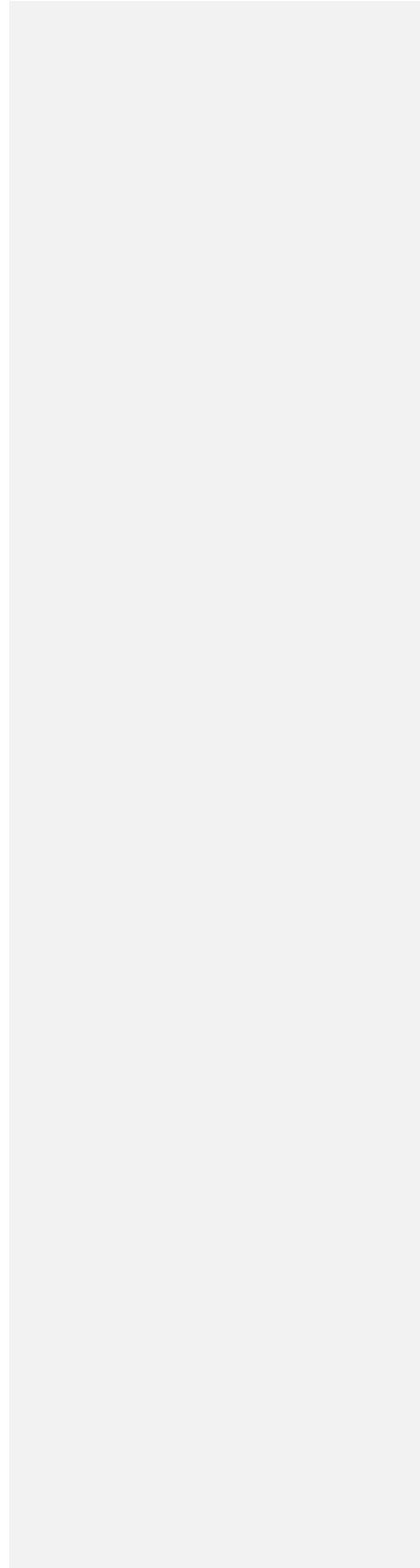
$$C.V. = 5.46\%$$

In above calculation, Fiscal year 060/61 or previous year is assume ad base year for growth percentage. Thus, the above table shows that NBTE has highest ratio of 2.13 times in fly 064/065. The average ratio is 1.946 times. The standard derivation is 10.69% and Coefficient of variance of the ratio is 5.46%, which indicates that is less variable, and more consistencies.

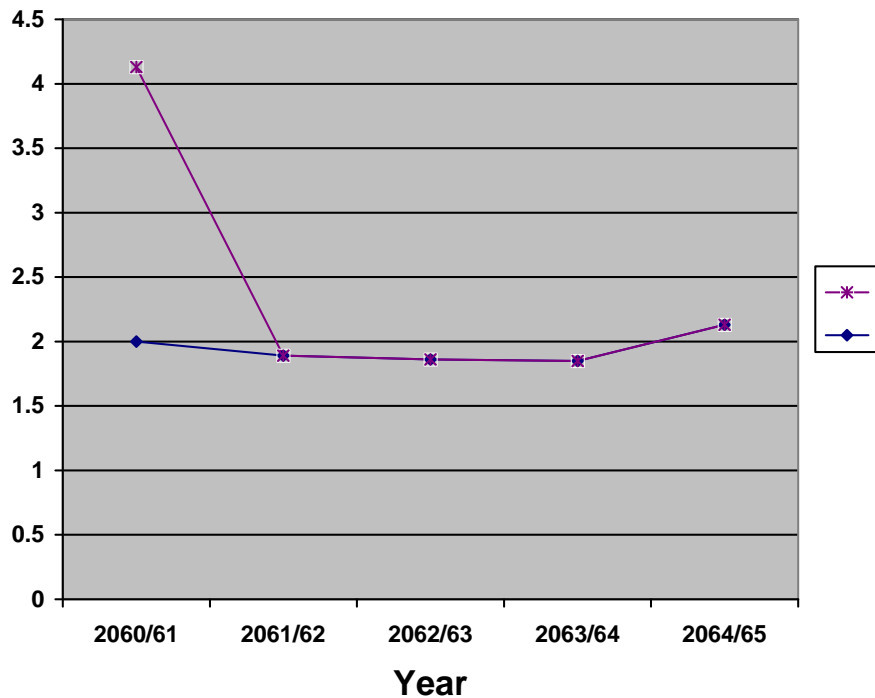
Generally, a 2:1 ratio of current assets to current liabilities is regarded satisfactory. In case of NBTE in above table, it is seen that the current assets is high then current liabilities during the study period. The average current ratio is 1.946 it is near to satisfactory. The firm is bit able to pay its consent liabilities when they become due. The growth percentage shows that comparison of First Year. The ratio is bit decreasing in years 061/62, 062/63, 063/64, but it increase in year 064/65. It means the firm try to improve its liquidity position. Graphically current ratio is presented bellow.

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**Figure No 4.1**  
**Current Ratio**



Form the above graph it is seen actual ratio of 064/065 is high and remaining all are seen to standard. During the study period the firm try to meet its current obligations.

**Quick Ratio :**

A quick ratio of 1:1 has been considered favorable but the standard of quick ratio is different form company to company. It shows the company ability of immediate payment of its short-term obligation. It so calculated by dividing the total of quick assets by total of current liabilities . The quick ratio of NBTE for the study period is presented below.

**Table No.4.2**  
**Quick Ratio**

Fiscal Year	Ratio	Growth Percentage
060\061	1.089	100
061\062	1.0125	92.98
062\063	1.069	105.58
063\064	1.256	95.94
064\065	1.2365	120.56

Source: From Appendix-1

$$\bar{x} = 1.08652$$

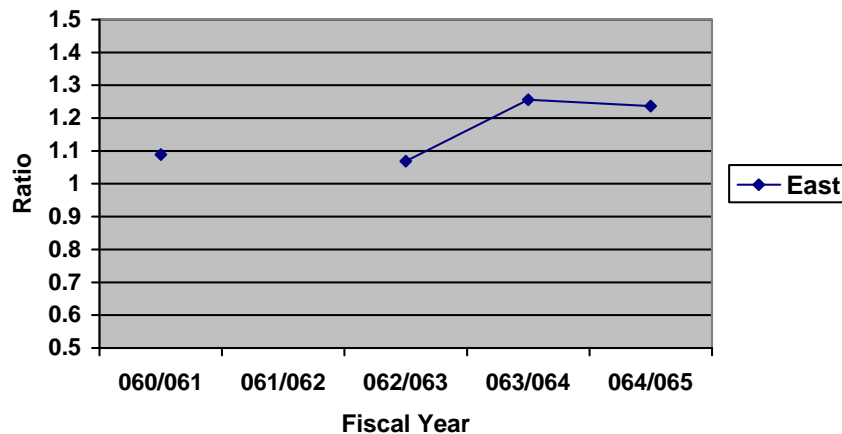
$$S.D.(\bar{\sigma}) = 7.96\%$$

$$C.V. = 7.33\%$$

The above table shows NBTE has a standard liquidly position during the study period. The highest liquidly Ratio is 1.2365 in fly 064\065 and lowest liquidly is 1.0125 in fly 062\063. The slandered derivation is 7.96% and mean is 1.08652 times. In addition, C.V. is 7.33%, which indicates the low variation in quick ratio.

Generally, Quick ratio of 1:1 is considered as satisfactory for firm to meet easily all current claims. Incase of NBTE, the firm is meeting its current liabilities. The growth percentage shows that in comparison of the first year, the second, third and fourth year, which indicates first 3 years, were bit-diminishing period and last 2 years were improvement period. Even thought it is in satisfactory position. Graphically quick ratio is present below:

**Fig : 4.2**



From the above graph, it is seen that actual ratio is match from standard ratio. This during the study period the firm is able to pay its current obligation.

**ii) Turn over Ratio:**

It indicates the speed with which assets are being converted into sales. It involves a relationship between sales and assets. A proper balance between sales and assets generally reflects assets are managed will. Or this category of ratios includes these with highlight upon the actively and operational efficiency of the business concern various kinds of ratio are.

- **Inventory turnover Ratio:**

The inventory turnover ratio shows how rapidly the inventory is running into receivable through sales. Generally, a high inventory turnover is indication of good inventory management and low inventory turnover is the indication of inefficient inventory management. It is also known as stock turner ratio and is computed by dividing the cost of goods sold by average inventory. ~~Dr~~

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Alternatively, Sales by closing stock. The ratio of NBTE for the study period is pres

**Table No. 4.3**

**Inventory Turnover Inventory Turnover Ratio**

Fiscal Year	Ratio (times)	Growth percentages
060/61	10.0799	100
061/62	10.8538	107.68
062/63	11.70	107.80
063/64	12.4848	106.71
064/65	12.1738	97.751

Source: From Appendix-1

$$\bar{x} = 11.4585$$

$$S. D.(\bar{\sigma})$$

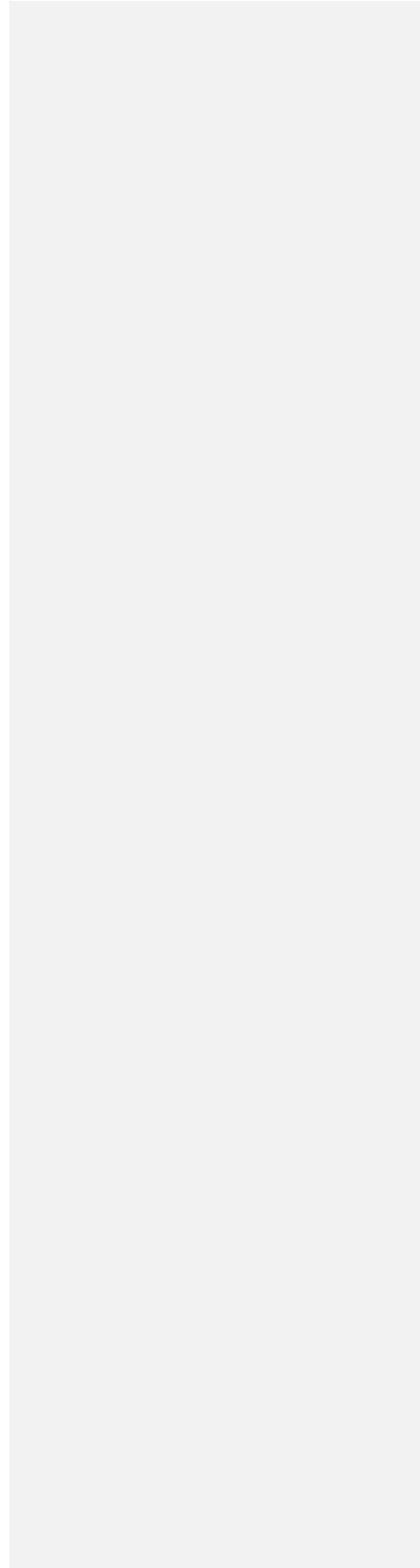
$$C.V. = 7.70\%$$

The above table's show that NBTE has recorded a highest ratio is 12.448 times in fiscal year 063/064 and lowest ratio is 10.0799 times in fiscal year 060/061. The mean value is 11.4585. The standard deviation is 0.8818 and 7.70%, which indicates the low variation in inventory turnover ratio.

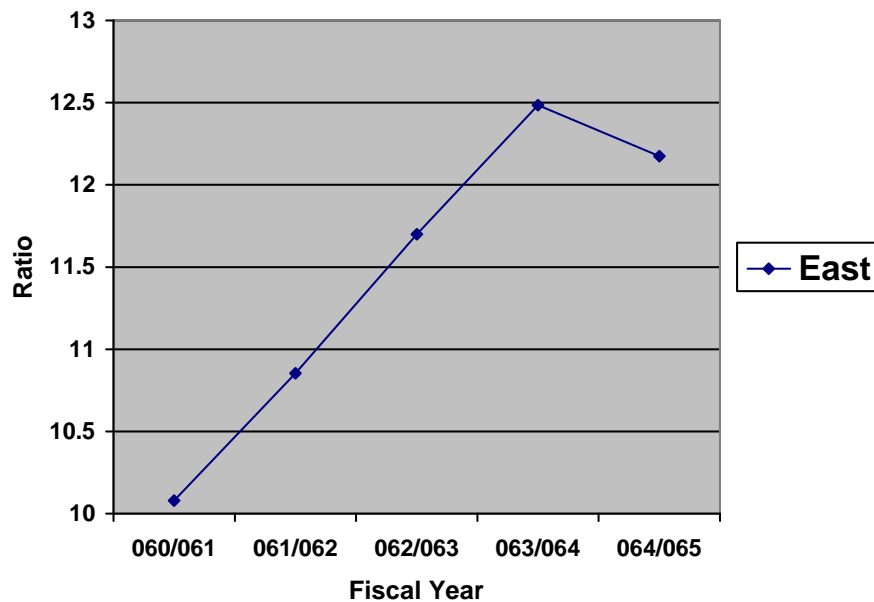
The industry average inventory turnover is 11.4585 incase of NBTE above table shows that the inventory turnover ratio all are lower then the average standard. The ratios show the firm position is good. Inventory is less then sales. The growth percentage of 107.68%, 107.80%, 106.71%, in fiscal year 061/062, 062/063, 064/065 respectively are only higher then the base year 060/061 during study period. Graphically inventory turnover ratio is presented as below.

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**Figure No 4.3**  
**Inventory Turnover Ratio**



From the above Graph, it is seen that all actual turnover ratio are lower then the standard turnover ratio. Which is ~~good~~ good for from position.

- **Total assets turnover ratio:-**

Total assets includes current assets fixed assets and intangible assets. It is calculated by dividing sales by total assets. Higher total assets turnover ratio in general indicates the proper utilization of assets of the firm and vice versa. It help to show the firm's ability of generating sales form the total financial resources available to the firm. The ratio of NBTE of the study period is presented below.

**Table No 4.4**  
**Total assets Turnover Ratio**

Fiscal Year	Ratio (times)	Growth percentages
060/61	0.9463	100
061/62	0.9916	104.79
062/63	1.0256	103.43
063/64	1.02162	99.08
064/65	1.2088	118.951

$$\bar{x} = 1.0377$$

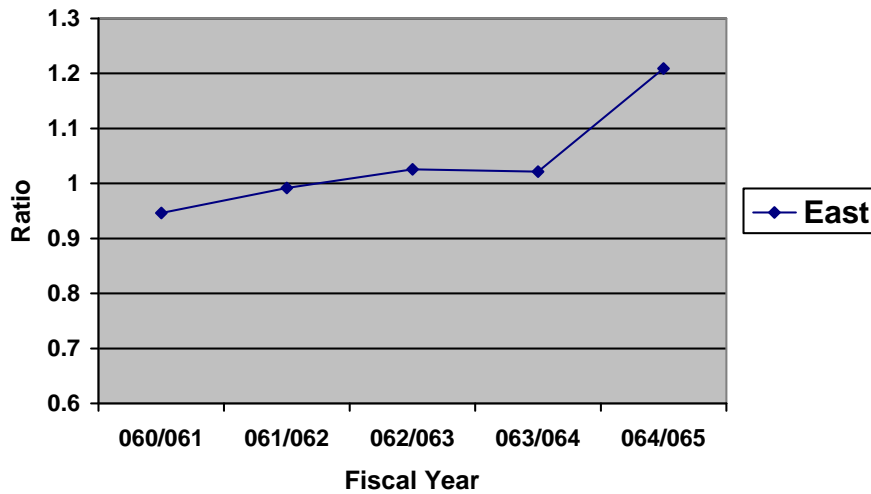
$$S. D. (\bar{\sigma}) = 0.08977$$

$$C.V. = 8.65\%$$

The above table shows that NBTE has recorded the highest total assets turnover ratio of 1.2088 in fiscal year 064/065, which indicates that NBTE is able to make sales of costing Rs. 1.2088 of every rupee invested in total assets and the lowest ratio of 0.9463 in the fiscal year 060/061 also indication to able to make ales of costing only Rs. 0.9463 for every rupee invested in total assets. The mean value of ratio is 1.0377 times. The standard deviation is 0.08977 and C.V. is 8.65%, which indicates the low variation in total assets turnover ratio Incase of NBTE the above table shows that it is climbing to meet average standard ratio. It means the man age meat trying to utilize the assets efficiently.

Growth percentage shows that in comparison of first year the ratio of second, third and fourth year are up going and the ratio of fifth year is higher in the study period graphically ratio is presented as below:-

**Figure No 4.4**  
**Total Assets Turnover**



From the above graph, It is seen that in comparison to first year the ratios second, third, fourth and fifth year are increasing.

- **Capital Employed Turnover Ratio:-**

Capital means owners equity. It is the ratio of sales to capital. It measures the effectiveness of the utilization of capital. This ratio indicates the firm's ability to generating sales per rupee of capital invested. High ratio is favorable and low ratio is unfavorable. For the firm. The ratio of NBTE for the study period is presented below.

**Table No 4.5**  
**Capital Employed Turnover Ratio**

Fiscal Year	Ratio (times)	Growth percentages
060/61	4.6238	100
061/62	5.0380	108.96
062/63	4.9577	98.41
063/64	5.4025	108.97
064/65	5.09855	94.37

Source : Appendix-1

$$\bar{x} = 5.02411$$

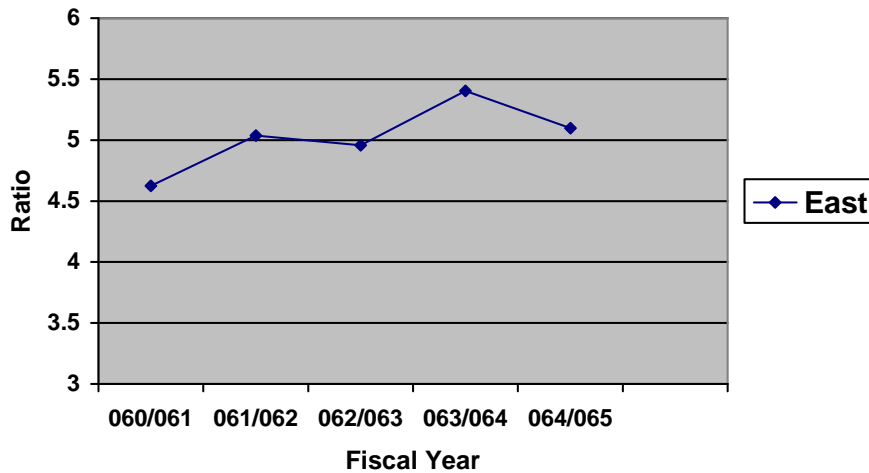
$$S. D. (\bar{\sigma}) = 0.2504$$

$$C.V. = 4.98\%$$

The above table shows that NBTE has the highest capital employed ratio of 5.4025 in fiscal year 063/064 and lowest ratio of 4.6238 in fiscal year 060/061. The mean value is 5.02411 times for the entire period of study. The standard deviation is 0.2504 and C.V. is 4.98% , which indicates the low variation in capital turnover ratio.

Incase of ~~NBTE~~**NBTE**, as above table shows capital turnover ratio is good. Management utilize capital effectively percentage growth shows that in increasing trend. it means the firm is trying to improve the position graphically ratio is presented as below.

**Figure No 4.5**  
**Capital employed Turnover Ratio**



From the above graph , it is clearly shows that in comparison to first year ratio remaining all years ratio are higher.

### III) Leverage Ratio:

The leverage ratio are calculated to judge the long term financial position of a firm. These ratios indicate whether the firm is financially sound or solvent as for its long obligation are concerned. This ratio measures the ability of the firm to pay the interest regularly and to repay the principal on the due data. These are two ratios to judge the long-term solvency of the concern.

- **Debt equity Ratio :**

The relationship between long-term and owner's equity is known as debt-equity ratio. It indicate the safely of margin to long-term creditors. A low debt equity ratio implies the use of more shareholders equity ratio implies the use of more shareholders equity funds than long-term debt which means a large safety for creditors.

A high ratio shows the large share of financing fiscal year the creditors as compare to that of owners. The ratio of NBTE for the study period is presented below.

**Table No 4.6**  
**Debt Equity Ratio**

Fiscal Year	Ratio (%)	Growth percentages
060/61	12.87	100
061/62	11.90	92.46
062/63	11.65	97.90
063/64	13.09	112.36
064/65	13.74	104.97

Source: From Apprndix-1

$$\bar{x} = 0.1265$$

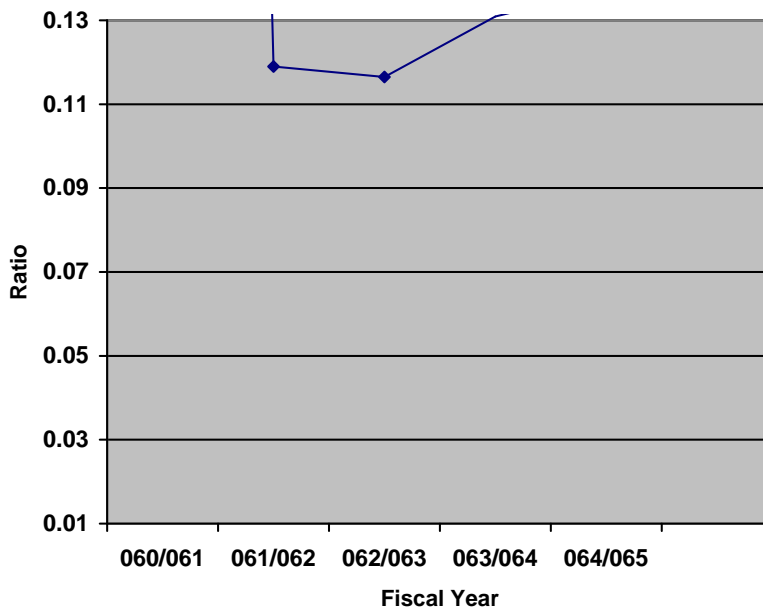
$$S. D. (\bar{\sigma}) = 0.01$$

$$C.V. = 7.91\%$$

The above table shows that NBTE has recorded as highest ratio is 0.1374 times in fiscal year 064/065 and lowest ratio is 0.1165 times in fiscal year 062/063. The mean value is 0.1265, and standard deviation is 0.01 with C.V. is 7.91% which indicates the low variation in debt equity ratio.

In case of NBTE the above table shows that capital structure of NBTE is good. The ratio are low which indicates that owner invested a more amount. in the firm than creditors. NBTE is running in profit so it is good for the firm to pay interest and principal regularly. Percentage growth shows that 4<sup>th</sup> and 5<sup>th</sup> year is high and 2<sup>nd</sup> and 3<sup>rd</sup> years is bit lower. Tate is high then others the standard deviation of the firm shows a high degree of Uniformity of the observation. Graphically ratio is presented as below.

**Figure No. 4.6**  
**Debt equity Ratio**



From the above graph, debt equity ratio is bit lower in second and third year in comparison to first year and in 4<sup>th</sup> and 5<sup>th</sup> year is increase in comparison to first year.

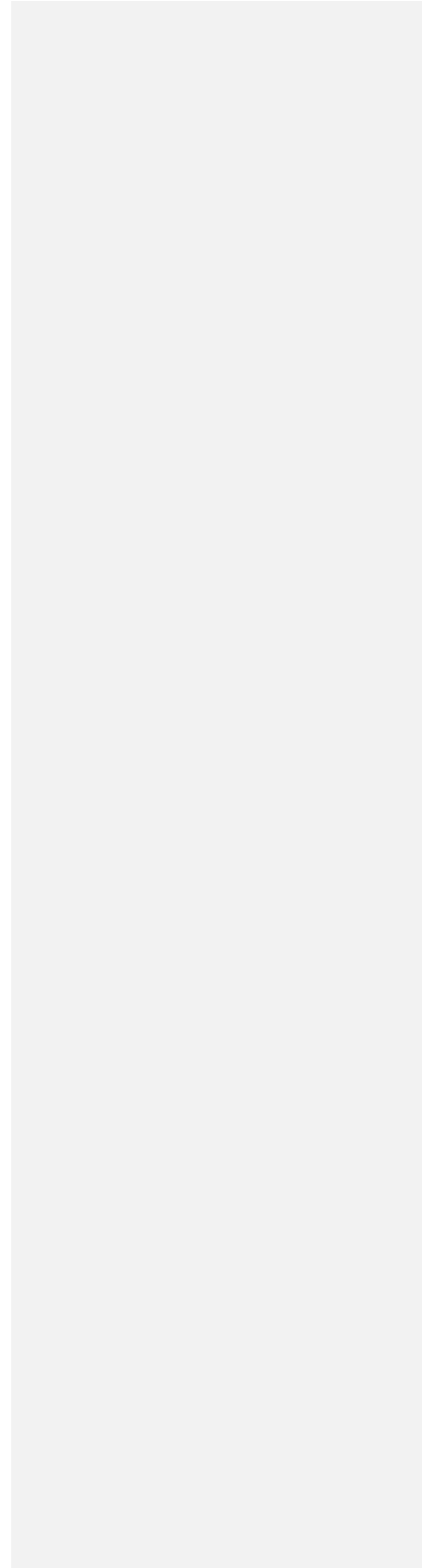
- **Debt to total capital Ratio:-**

The relationship between the long-term debt and total capital is known as debt to total capital ratio. This ratio measures the relative share of the debt in the total capital of the organization indicating the long-term solvency. The ratio is a Vatican of the debt to equity ratio and gives indication of the debt to total capital ratio implies the use of more equity then debt. A low ratio represents security to creditors in extending credit but a high ratio represents a greater risk to creditors

as well as shareholders. The ratio of NBTE for the study period is presented below.

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**The No 4.7**  
**Debt to Total Capital Ratio**

Fiscal Year	Ratio (%)	Growth percentages
060/61	10.24	100
061/62	9.52	92.97
062/63	9.27	97.37
063/64	10.40	112.19
064/65	12.08	116.15

Source : Appendix- 1

$$\bar{x} = 0.1030$$

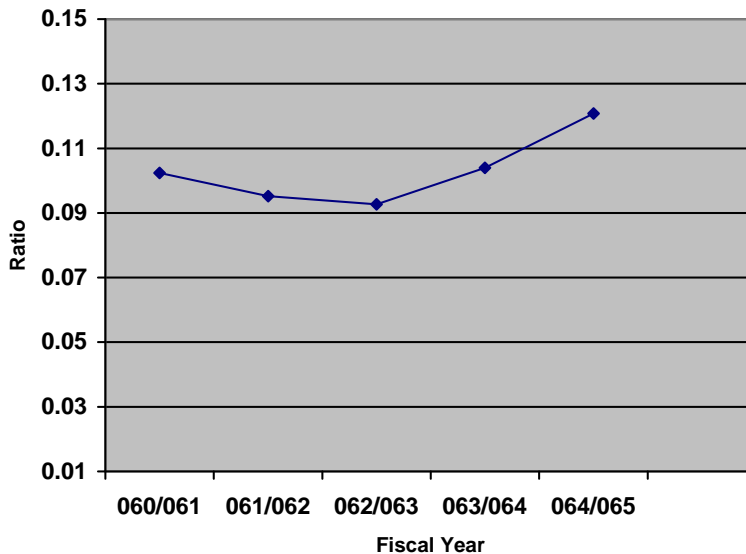
$$S. D. (\bar{\sigma}) = 0.01$$

$$C.V. = 9.71\%$$

The above table indicates that NBTE has recorded a higher ratio of 0.1208 times in fiscal year 064/065 and lowest of 0.0927 times in fiscal year 062/063. The mean value is 0.1030. The standard deviation is 0.01 and C.V. is 9.71% which indicates the low variation in debt to total capital ratio.

In the case of NBTE the above table shows that long term loan is lower than share capital assets in the firm. A low ratio indicates low amount invested from creditors. Graphically the ratio is presented as below.

**Figure No . 4.7**  
**Debt to total capital Ratio**



From the above graph, debt to total capital ratio is slidely decrease in second and third year in comparison to first year and fourth and fifth year it also slidely increase.

**Iv) P profitability Ratio:**

Maximization profit is the main objectives to each and every business concern. It is very necessary to earn maximum profit for the successful running of a business concern. This ratio gives final answer about how effectively the firm is being managed. Not only any business concern has to earn profit but also it has to remember social responsibility. It is use to measure the operating performance of the firm. Profitability rations can be computed in relation to the investment and sales. Profitability ratios are the use ratios, which indicate degree of success in achieving desired profit levels.

- **Gross profit Ratio:-**

The ratio expresses the relationship between gross profit and sales. This ratio shows the profit with relation to sales after the direct production cost is deducted. It indicates this ratio is a measure of productive efficiency. A high gross profit ratio implies that the firm is able to produce low cost and low gross profit ratio may reflect a highest cost of production due to the inefficient management of the company. It indicates the average speed between the cost of goods sold and sales revenue. The ratio table of NBTE for the study period is presented below.

Table No. 4.8  
Gross Profit Ratio

Fiscal Year	Ratio (%)	Growth percentages
060/61	65.71	100
061/62	67.98	103.45
062/63	68.52	100.79
063/64	65.28	95.27
064/65	61.79	94.65

Source : Appendix- 1

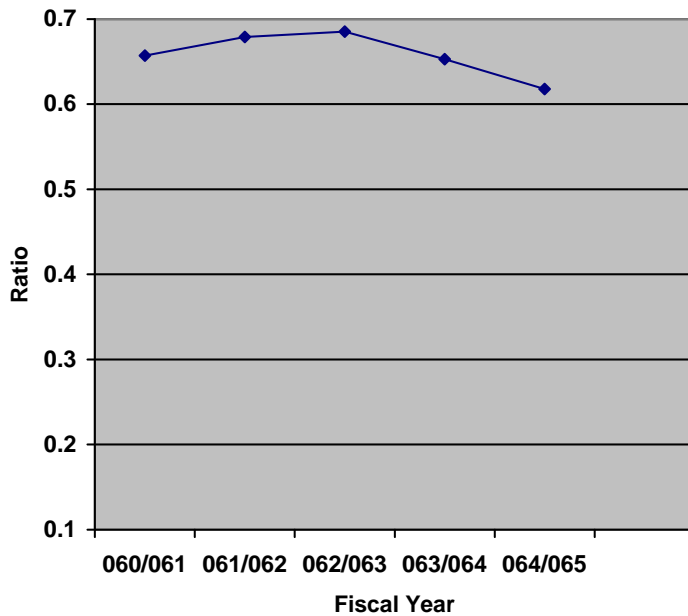
$$\bar{x} = 0.6586$$

$$S. D. (\bar{\sigma}) = 0.0237$$

$$C.V. = 3.60\%$$

The above table shows that NBTE has the highest gross profit ratio of 0.6852 in the fiscal year 062/063 and lower of 0.6179 in the fiscal year 064/065. the value of mean is 0.6586 times. The standard deviation is 0.0237 and C.V. is 3.60% which indicates the low variation in gross profit ratio. With the help of above result it is revealed NBTE has high gross profit ratio is means low cost of production high selling price and high sales volume is maintained. Graphically the ratio is presented as below:-

**Figure No. 4.8**  
**Gross profit Ratio**



Form the above graph the ratio is going up from year 060/061 to 061/062. After that, the ratio is going down regularity.

- **Net Profit Ratio :**

This ratio established a relationship between net profit and sales and indicates management's efficiency. This ratio is the over all measure of firm's ability to earn one rupee of sales into net profit. It indicates the extent to which the owners of the business receive out of sales revenue after meeting all expenses there fore this ratio shows the operating efficiency of the tea estate. High result is favorable for the form because it insures adequate return to the owners. However, lower ratio is unfavorable for the firm profit point of view. The ratio table of NBTE for the study period is presented below.

**Table no 4.9**  
**Net Profit Ratio**

Fiscal Year	Ratio (%)	Growth percentages
060/61	37.34	100
061/62	42.34	113.39
062/63	41.26	97.45
063/64	34.13	82.72
064/65	27.35	80.13

Source : Appendix- 1

$$\bar{x} = 0.3660$$

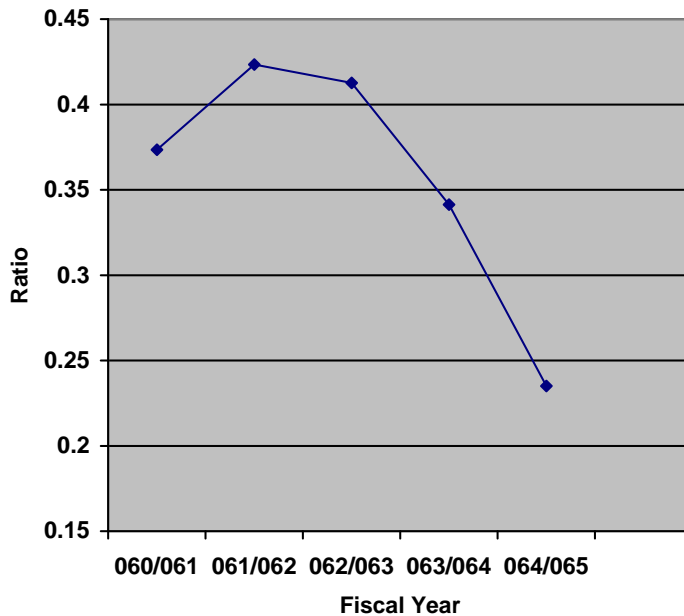
$$S. D. (\bar{\sigma}) = 0.0548$$

$$C.V. = 0.1497\%$$

The above table shows that the highest net profit ratio of NBTE is 0.4234 times in the fiscal year 061/062 and lowest ratio is 0.3660 the standard deviation is 0.0548 and C.V. is 14.97% which indicates the low variation in net profit ratio.

The table shows that NBTE has satisfactory result in study period. Higher ratio is favorable and lower ratio is unfavorable. The situation of NBTE is satisfactory standard derivation shows that the ratio is fluctuating nature. Graphically the ratio is presented below.

**Figure No. 4.9**  
**Net Profit Ratio**



From the above graph it is clearly seen that the ratio is growing up from year 060/061 to 061/062 and then the ratio is going down regularly.

#### **4.1.2 Statistical Analysis:-**

Beside financial tools, some statistical analysis is also used to analysis the data.

- **Co- efficient of Correlation:-**

To analysis the direction and degree of correlation between two or more variable, correlation coefficient is analyze. It shows the closeness of relation between the variables. Correlation is the statically tool that we can use to describe the degree to which are variable is linearly related to another. Two variables are

correlated, when appear due to link with the change in other variable.

- **Regression analysis :-**

Regression analysis reveals average relationship between two variables and this makes possible estimation of prediction of one variable on the basis of the other variables. Assuming that the two variables are closely related. We can estimate the value of the one variable from the given of another. For example if we know that production required to achieve a given amount of sales. Thus regression determines the average probable change in one variable based on a certain amount of change in another prediction is one of the major problems in almost all spheres of human activity the estimation of future production consumption prices and investment sales profit income etc are very important to businessman of economist.

- i) Correlation and regression analysis of sales and profit :**

To find out the value of variability of sales and profit coefficient of variation is calculated. In this case actual sales (x) is taken as independent variable and profit (Y) is taken as dependent variable. The degree and relationship between sales and profit is calculated in table.

**Table No 4.10**  
**Correlation and regression analysis of sales and profit**

Fiscal Year	Sales in Rs. (x)	Profit in Rs (y)
060/61	35040000	13294000
061/62	39550000	16746500
062/63	41500000	17124500
063/64	37140000	12675000
064/65	37560000	10272000
	X=190780000	Y=70112000

Source : Appendix- 1

$$\bar{x} = 38158000$$

$$\bar{y} = 14022400$$

$$\bar{\sigma}_x = 2201021.58$$

$$\bar{\sigma}_y = 2586708.14$$

$$Cv_x = 5.77\%$$

$$Cv_y = 8.45\%$$

$$r_{xy} = 0.7041$$

$$r_{xy} = 0.7041$$

$$Y = 0.5991X - 8838739.50$$

The above ~~table show~~table shows if the value of sales is increased by Rs.1, the profit would be increased by Rs. 0.59. Coefficient of variance of sales is 5.77% and profit is 8.45% which indicates there is low variation in sales than in profit. Correlation co-efficient 'r' between sales and profit is 0.7041 that means there is very high correlation, which indicates best performance.

**ii) ~~co~~Co- relation and ~~regression~~regression Analysis of sales and current Assets.**

To find out the value of variability of sales and current assets co- efficient sales (x) is taken as independent variable and current assets (y) is taken as dependent variable. The degree and relationship between sales and inventory is calculated below.

**Table No. 4.11**  
**Correlation and Regression Analysis of sales and current Assets**

Fiscal year	Sales in Rs. (x)	Current Asses In Rs(x)
060/061	35040000	7578175
061/062	39550000	7850282
062/063	41500000	8370706
063/064	37560000	6874537
064/065	37560000	7366800
	X= 190790000	Y= 38040500

Sources : from Appendix – 2

$$\begin{aligned} \bar{x} &= 38158000 & \bar{y} &= 7608100 \\ \bar{c}_x &= 2201020 & \bar{c}_y &= 497482 \\ C v_x &= 5.77\% & C v_y &= 6.54\% \\ r_{xy} &= 0.706887 & r_{xy} &= 0.7041 \\ Y &= 3.127x - 11171.62 \end{aligned}$$

The above table shows that if sales is increased by Re.1, the current assets would be increased by Rs. 4.3013 the co-efficient of variance of sales is 5.77% and current assets variation in current assets than in sales. Correlation co-efficient between sales . ~~correlation~~Correlation in current assets than in sales. Correlation co-efficient between sales and current assets is 0.706887 that means there is high correlation, which in dicates good performance.

**iii) Correlation and regression analysis of sales and current liabilities:-**

To find the value of sales and current liabilities, coefficient of variation is calculated. In this coefficient of variation is calculated. In this case, an actual sale (x) is taken as independent variable and current liabilities (Y) is taken as dependent variable. The degree and relationship between sales and current liability is calculated below.

**Table No. 4.12**  
**Co-rrlation and regression Analysis of sales and current liabilities.**

Fiscal year	Sales in Rs. (x)	Current Asses In Rs(x)
060/061	35040000	7564200
061/062	39550000	4154400
062/063	41500000	4510500
063/064	37140000	3714600
064/065	37560000	3462500
	X= 190790000	Y= 19606200

Sources: from Appendix -2

$$\bar{x} = 38158000$$

$$\bar{y} = 3921240$$

$$\bar{C}_x = 2201020$$

$$\bar{C}_y = 368600$$

$$Cv_x = 5.77\%$$

$$Cv_y = 9.40\%$$

$$r_{xy} = 0.80564$$

$$Y = 4.8107x - 2682.036$$

The above table indicates that if sales increased by Re. 1 the current liabilities would increased by Rs. 4.8107, the co-efficient of variation of sales is 5.77% and C.v of current liabilities is 9.40%, which indicates there is high variation coefficient 'r' between sales and current liabilities is 0.80564, that means there is high correlation, which indicates good position of the firm.

iv) correlation and regression analysis of sales and find out the value of variability of sales and debtor,co-efficient of variation is calculated in this case, co-efficient of variation is calculated in this case actual sales (x) is taken as independent variable and debtors (y) is taken as dependent variable . The degree and relationship between sales and debtors is calculated below.

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**Table No. 4.13**  
**Correlation and regression analysis of sales and debtors**

Fiscal year	Sales in Rs. (x)	Current Asses In Rs(x)
060/061	35040000	2246975
061/062	39550000	2552382
062/063	41500000	2673406
063/064	37140000	1855737
064/065	37560000	2156500
	X= 190790000	Y= 11484900

Sources: from Appendix -2

$$\bar{x} = 38158000$$

$$\bar{Y} = 2296980$$

$$\bar{C}_x = 220,1020$$

$$\bar{O}_y = 291311$$

$$Cv_x = 5.77\%$$

$$Cv_y = 12.68\%$$

$$r_{xy} = 0.7194$$

$$Y = 5.4355x - 2515.3885$$

The above table shows that if sales increased by Rs.1than debtor would be increased by 5.4255. Co-efficient of variance of sales is 5.77% and co-efficient of variance of debts in debts than in sales. Correlation coefficient 'r' between sales and debtor is 0.7194, that mean there is high correlation, which indicated good position of the firm .

**v) Correlation and regression analysis and inventor**

To find out the value of variability of sales and inventory co-efficient of variation is calculated in this case actual sale (x) is taken as independent variable. The degree relationship between sales and inventory is calculated below.

**Table No.4.14**  
**Correlation and Regression analysis of sales & inventory**

Fiscal year	Sales in Rs. (x)	Current Asses In Rs(x)
060/061	35040000	3476200
061/062	39550000	3643900
062/063	41500000	3546800
063/064	37140000	2974800
064/065	37560000	3085300
	X= 190790000	Y= 16727000

Sources: from Appendix – 2

$$\bar{x} = 38158000$$

$$\bar{y} = 3345400$$

$$\bar{c}_x = 220,1020$$

$$\bar{c}_y = 265245$$

$$Cv_x = 5.77\%$$

$$Cv_y = 7.93\%$$

$$r_{xy} = 0.4157$$

$$Y = 3.4495x - 12828.06$$

The above table shows that if the sales value increased by Rs. 1 the inventory would be increased the coefficient of variation of sales is 5.77%. and coefficient of variation of inventory than indicates there is high variation in inventory in inventory than sales. Correlation coefficient 'r' between than indicates there is high variation in inventory than sales. Correlation coefficient 'r' between sales and inventory is 0.4157, which is low correlation

#### 4.1.3 Trend equation analysis:

In the analyzing of financial statement analysis of NABIL some statistical tools and method were used. Like as secular trend or trend equation analysis.” The word secular is divided from the latten word speculum, meaning generation or ag. Hence secular trend movements are through of as long term.”

The term 'trend' is very commonly used in day-to-day parlance. For example, we often talk of rising trend of population, prices, etc. trend also called secular or long-term trend is the basic tendency of production, sales, income, employment, etc to grow or decline over a period of time. The concept of trend does not include short-range oscillation but rather steady movements over a long term.

There are all sort of trends; increase fast, others decrease at varying rates, some remain relatively constant for long periods of time, and some after a period of growth or decline reverse. Themselves and enter period of decline or growth, broadly speaking the various type of trends are dividend into two parts: s

- i) **Liner or straight line trends: o**
- ii) **Non-liner trends**

To know the proper meaning of trend ; the following two paints must be study they are,

- a) The meaning of long term; when say that secular trend refers to the general tendency of the data to grow or decline over a long period of time, one may be interested in finding out as to what constitutes a long period of time. Does it mean several years a particular is 'n' on other hand, whether a particular period can be regarded as long or not the other study of secular trend depends upon the nature of the seclar trend depends upon the nature of the data. To make an example if study of figure of sales of a firm for 2002 and 2003 and it was faid that in 2003 the sales have gone up, this increases cannot be called as secular trend because this is too short period of time to concede that the sales are showing an increasing tendency. On the other hand if it put a strong germicide into bacterial culture, and can't the number

of organism still alive often each 10 second for 8 minutes these 40 observation showing movement. It is clear from this example that in one 2 years could not be regarded as a long period where as in the case even 8 minutes constituted long period. Hence, the nature of the data would dictate whether a particular period would be called as long or not

Generally speaking, the longer the period covered, the more significant the trend. When the period is short, the secular movement cannot be expected to reveal themselves clearly and the general drifts of the series may be unduly influenced by the cyclical fluctuation. This would make it difficult to time series. As a minimum safe guard, it may be said that to compute trend the period must cover at two an three complete cycles.

a)b) Another point worth mentioning is that for concluding whether the data is showing an up ward tendency or downward tendency, it is not necessary that the rise or fall must continue in the same direction through out the period. We have to observe the general tendency of the data. As long as we can say that the period as a whole is characterized by an upward movement or by a downward movement, we say that secular trend was present. For example , If we observe the find that expend of price over a period of 20 years and find that except for a year or two the piece are continuously rising, we would call it a secular rise in prices.

At last, to analysis the trend analysis the least square method is most widely used in practice it is mathematical method and the line obtained by this method is called the line of best fit.

The method of least square may be used either to fit a straight-line trend or parabolic trend.

The straight-line trend is represented by the equation.

$$Y_c = a + bx \dots \dots \dots (1)$$

Where,  $Y_c$  is used to designate the trend values to distinguish them from the actual Y values,

A= Y intercept

B= the slope of the trend line.

X=O

Merits and Demerits of least square method.

### Merits

- i. This is purely a mathematical method of measuring trend, so it is free from personal business.
- ii. Trend value for each year can be obtained from this method.
- iii. With this method, prediction of the values for the future is possible.

### Demerits

- i. Due to mathematical method, this cannot be ~~understand~~understood easily.
- ii. This method is not flexible because if some more items be added to the original data a new equation of the trend line may obtain.
- iii. This method needs more calculation. This method is ~~equat~~equated tedious and time consuming compared to other methods.

Now, it has been taken to fore cast the sales, profit, current assets, current liabilities inventory and obtains of NBTE is calculated in following table.

**Table No. 4.15**  
**Highlight of trend equation**

Year	A <sub>1</sub>	A <sub>2</sub>	A <sub>3</sub>	A <sub>4</sub>	A <sub>5</sub>	A <sub>6</sub>
060/061	3504	1329.40	757.8175	376.42	347.62	224.6975
061/062	3955	1674.65	785.0281	415.44	364.39	255.2381
062/063	4150	1712.45	837.0706	451.05	354.68	267.3406
063/064	3714	1267.50	687.4537	371.46	297.48	185.5737
064/065	3756	1027.20	736.68	346.25	308.53	215.65
Trend eq <sup>n</sup>	3815.8+27.3*	1402.24- 101.15*	13.985*	392.124- 10.432*	334.54- 14.509*	229.698- 8.7759*

Where, A<sub>1</sub>= sales, A<sub>2</sub>= Profit, A<sub>3</sub>=Current Assets, A<sub>4</sub>=Current Liabilities, A<sub>5</sub>= Inventory, A<sub>6</sub>= Debtors

The above table indicates that sales increase per year by 263000 and profit decrease per year by 1000500. In this way, current assets and liabilities also decrease by 139850 and 104320 respectively inventory and debtors also decreased by Rs. 145090 and 877590 respectively during the study period.

- **Trend percentage analysis.**

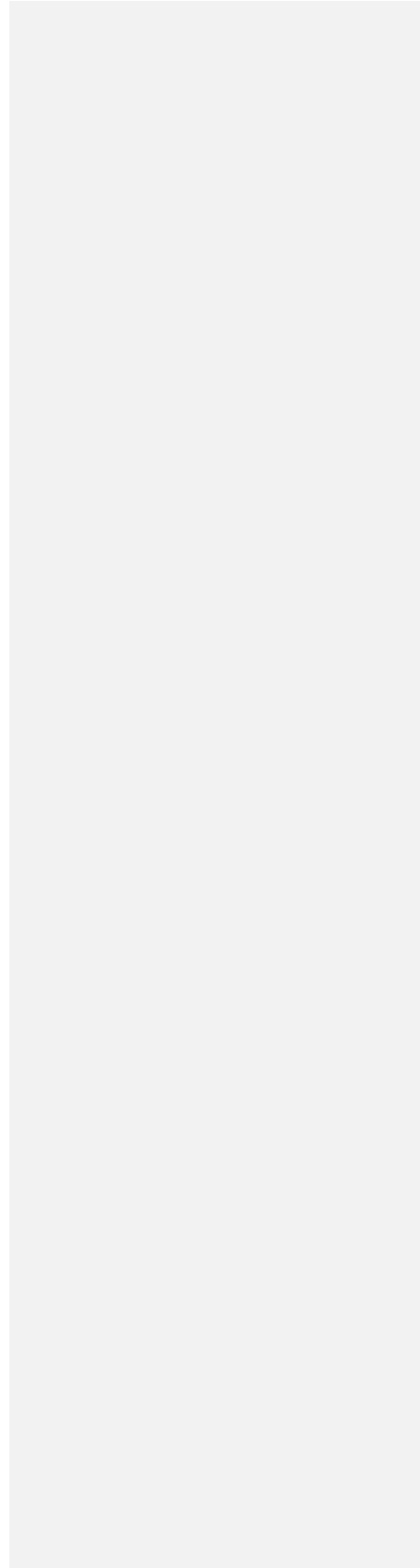
Trend percentage analysis of business facts is very significant from the point of view of forecasting or budget. It disclose the change in the financial and operating data between changes periods and makes possible for the analyst to form an opinion as they are reflected by the accounting data. Trend percentage analysis enables

whether the financial position of the company is improving or determining over the years. To analyze the trend of data shown in financial statement it is necessary to have statements for calculation of percentage relationship that each statement items bears to the same item in relating to base year in taken as 100% and percentage relationship are calculated for other remaining years on the base of base year. Trend percentage disclose change in the financial and operating data between specific period and on this basis forecast for future can be made for this purpose base year should be normal year so, the trend analysis of the significant items of the industry's financial statement compasses figure for a number of years and tabulation presentation of them by chart and tabulation presentation of them by chart and tabulation presentation of them by chart and graphic. “ this this method involves the calculation of percentage disclose changes in the financial and operating data between specific period and make possible for the analysis to from an opinion as to whether favorable or unfavorable tendencies and reflected by the data.”

The significant trend reactions of nakalbandha tea estate pvt. Ltd. ~~Have has been—conducted~~been conducted in the table no. and graphic in this table fraction of percentage have been eliminating by rounding up into integer and trends have been plotted in graphs.

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**Table No 4.16**  
**Trend Percentage for the year 060/061 to 064/065**

S.N	Particular	Fiscal year				
		060/061	061/062	062/063	063/064	064/065
1	Sales	100	113	118	106	107
2	Production Cost	100	104	107	104	114
3	Factory Cost	100	104	107	106	118
4	Packing cost	100	108	112	110	124
5	Adm. cost	100	104	112	116	135
6	Total cost	100	105	109	107	119
7	Net cost	100	126	129	95	77
8	Inventory	100	105	102	86	98
9	sundry deb.	100	114	119	83	96
10	Current assets	100	104	110	91	97
11	<u>Current liab.</u>	100	110	120	99	92

## **CHAPTER-V**

### **SUMMARY, CONCLUSIONS & RECOMMENDATION**

#### **5.1 Summary**

Nepal is a small country, considered to be one of the most beautiful charming in south Asia. It lies between china and India, china in north and in south, East and west. Geographically, Nepal is situated in the Northern hemisphere between 80.4 'e' longitudes with the latitude of 26.22' N to 30. 27'N. It has total land area of 147181 sq. km. Nepal is least developed country, most people engaged in agriculture sector, more than 90% of the total population are engaging in this sector. In Nepal, tea is the main product of cash crops in agriculture sector. It plays vital role in the national economy from the commercial point of view.

Now a day, tea is taken as a beverage. It is taken as means of etiquette in most part of the world. Tea contains caffeine, which provides freshness, spirit and excitement in human body. In the context to the world, tea is very old and famous drink, at first tea was introduce from china about 2500 year ago and the explored all over the world. Gajraj thapa was the first man who introduces tea first time in Nepal. Tea as a plantation industry in Nepal was start in 1920 B.S.

According to company act 2007, Nakalbandha Tea Estate (Pvt.) Ltd. is established in 2018 B.S. It is located in ward no. 8 of Mechinagar Municipality in Jhapa district. The factory office and Tea garden of Nakalbandha Tea Estate (Pvt.) Ltd. company covers 125 bighas land. It provides CTC Tea. It generates employment to local people and co-operative organizations.

Twenty six administration staffs, seventy-five female worker and fifty one male workers are in the factory. Production capacity of the factory is 4000000 Kg. It's products are sales in different parts of Nepal and India.

The marketing strategy of Nakalbandha Tea Estate (Pvt.) Ltd. is simple It has two types of distribution channel.

- Producer – customer.
- Producer- wholesaler – retailer – consumer

NBTE doesn't have any branch department and agent for sales and sales promotions. It does not follow any advertisement tools due high quality and affordable price provided to the customer. It emphasis the quality and cost control of CTC Tea under the good management of Krishna Pradhan and Rajip Kumar Gupta.

The research work is attempt towards the analysis of financial statement or performance of Nakalbandha Tea Estate Pvt.Ltd. This analysis is based on secondary data. These data are analyzed using financial and statistical tools, such as ratio analysis, trend equation, and also correlation and regression.

This is designed to judge the financial performance, which is based on published financial statement of Nakalbandha Tea Estate Pvt. Ltd

for five years from 060/061 to 064/065 and it has divided into five chapters. They are as follows.

- Introduction
- Review of literature
- Research Methodology
- Presentation and Analysis of Data
- Summary, Conclusions and Recommendation

### **Introduction**

It is the chapter of research works book. This chapter deals with different aspects of the story consists with Background, History of tea plan's development in Nepal, An introduction of Nakalbandha Tea Estate Pvt. Ltd., Focus of the study, Statement of the Problems, Objectives of the study, Importance of the study, Limitation of the study, Research question and Organization of the study are discussed.

### **Review of literature**

In this chapter, review of literature related to financial statement tools, and technique are presented. To judge the financial health and stability and performance, ratio analysis is a significant tool of financial analysis. By analyzing and interpreting financial statement analysis it gives information for planning, forecasting, controlling and communicating to the business firm.

Cash flow analysis highlights inflow and outflow of cash and indicates the sources and application of cash between the dates of two balance sheet dates.

Statistical analysis is used to the analysis the data. To analysis the direction and degree of correlation between two or more variable, correlation coefficient is analyzed. It shows the relation between two variables. Regression is a statistical tool, which is used to determine the

statistical relationship between two or more variable and make estimation of one variable on the basis of the other variables.

### **Research Methodology**

Research methodology is the process of researcher works book, which is taken as a method or the various sequential steps adopted by a researcher in studying a problem design, data collection process, study period covered, data processing process and analytical tools used etc have been discussed.

### **Presentation and Analysis of Data**

In this chapter, to achieve the objectives of the study work some significant financial ratios have been calculated.

To know the firm's liquidity position, two types of ratios, current ratio and quick ratio are calculated. The current ratios of NBTE during the study period from the fiscal year 060/061 to 064/065 were 2, 1.89, 1.86, 1.85, and 2.13 times respectively. All the ratios are in good position, the mean value is 1.946 times and CV is 5.46% which indicates the low variation and S.D. is 10.63%. It shows the firm is good position, and the quick ratios during the study period from the fiscal year 060/061 to 064/065 were 1.089, 1.0125, 1.069, 1.0256, and 1.2365 times respectively. Which is average in standard that means firm is in good position. The mean value is 1.086 which also in standard position. CV is 7.32% which shows the low variation and S.D. is 7.9588%.

To find out the efficiency of management as well as the effectiveness of the investment of resources in the business, we calculated turnover ratio

Inventory turnover ratio of NBTE during study period from F/Y 060/061 to 064/65 was 10.0799, 10.8538, 11.70, 12.4848, and 12.1738 times

respectively. It indicates that the product is moderately moving in each year of the study period. The mean value of ratio is 11.4585. CV is 7.69% and S.D. is 0.8818. Total assets turnover ratio of the company during the study period from the F/Y 060/061 to 064/065 was 0.9463, 0.9916, 1.0256, 1.0162, and 1.2088 respectively. Which are lower than industrial average 1.80. These lower ratios indicate that the firm can't manage the total assets effectively. Mean value of the ratio is 1.0377 and CV is 8.65%. S.D. is 0.089778.

Capital employed turnover ratio of the company during the study period from the F/Y 060/061 to 064/065 was 4.6238, 5.0380, 4.9577, 5.4025, and 5.09855 times respectively. The mean value is 5.02411 and S.D. is 0.2504.

To know the firm's capital structure we calculate the leverage ratio. We calculated two types of leverage ratio i. e. Debt–Equity Ratio and Debt to Total Capital Ratio. Debt equity ratio of the company during the study period from F/Y 060/061 to 064/065 was 0.1287, 0.1190, 0.1165, 0.1309, and 0.1374 times respectively. The mean value of the ratio is 0.1265 and S.D. is 0.01. and CV is 7.90%.

Debt to Total Capital ratio during the study period from F/Y 060/061 to 064/065 was 0.1024, 0.0952, 0.0927, 0.1040, and 0.1208 times respectively. The average ratio is 0.1030 and S.D. is 0.010. CV is 9.70% which is low variation.

To measure the operating performance of the firm we calculate the profitability ratio. It is calculated by the help of Gross profit ratio, and Net profit ratio.

Gross profit ratio during the study period from the F/Y 060/061 to 064/065 was 0.6571, 0.6798, 0.6852, 0.6528, and 0.6179 respectively. The

mean value is 0.6586 and S.D. is 0.0237. CV is 3.59% which is low variable. This shows the good position of the company. Net profit ratio during the study period from F/Y 060/061 to 064/065 was 0.3794, 0.4234, 0.4126, 0.3413, and 0.2735 respectively. The mean value is 0.3660 and S.D. is 0.0548. CV is 14.97%. Which shows the firm is in good position.

The correlation between sales and profit 'r' is 0.7041 and regression equation indicates that if the value of sales is increased by Rs.1 the profit would be increase by Rs.0.5991 that means there is low correlation which indicates poor performance. The correlation and regression between sales and inventory shows that there is low correlation between them. i.e.  $r=0.4157$  and regression equation is  $3.4495x-12828.06$ . The correlation between sales and current assets 'r' is 0.706887 and regression equation shows that if the value is increased by Rs. 1 the current assets would be increase by Rs. 3.127 which is good for the firm. And the correlation between sales and current liabilities 'r' is 0.80564. And the regression equation shows that if the value of sales is increased by Rs. 1 the current liabilities would be increase by Rs. 4.8107. It means the firm's performance is good. At last the correlation between sales and debtors 'r' is 0.7194 and the regression equation shows that if the value of sales increased by Rs. 1 the debtors would be increase by Rs. 5.4355 which is high correlation which indicates that the firm is in poor position.

The trend percentage analysis shows that the direction of change. Trend percentage of total cost is fluctuating more than the trend of sales. The trend of current assets and current liabilities are increasing nature. In same way the trend of inventory and sundry debtors also increasing nature. By the analysis of trend percentage analysis we know the firm is able to create a profit for it's aliened in business status. It shows the good performance of the company.

## 5.2 Conclusion

Following are the major finding of the research work.

### 1. From liquidity analysis it is known that:

a) By the help of current ratio it was finding that the company is able to maintain proper balance of current assets and current liabilities. Generally the current assets of the company should be twice of the current liabilities. The average current ratio was 1.946. It is near to the standard it indicates that NBTE has efficient amount maintained to pay current liabilities. Hence, from liquidity point of view NBTE is in satisfactory position.

b) The quick ratio of the NBTE during the study period was bit more than the theoretical norm of 1:1. The average quick ratio is 1.08652. It indicates that the company is meeting its all current claims. It maintained sufficient amount of cash to meet immediate obligation.

### 2. From the Activity Ratio Analysis it is known that:

a) The inventory turnover ratio shows that how rapidly the inventory is turning into receivable through sales. The standard inventory turnover ratio of the company is 12 times where the average inventory turnover ratio of the company is 11.4585 times. Which nearly meet the standard level, that means the firm is cover the best performance level is the study period.

b) Higher Total Assets Turnover Ratio in general indicates the proper utilization of assets of the firm and vice versa. It help to show the firm's ability of generating sales from the total financial resources available to the firm. The standard total assets turnover ratio is 1.8 times, where the average total assets turnover ratio of the company is 1.0377 times which do not meet the standard level during the study period.

c) Capital Employed Turnover Ratio shows the firm's ability to generating sales per rupee of capital invested. The average capital employed

turnover ratio of NBTE is 5.02411 times. The ratio indicates the company is efficiently utilizing the capital. It is good performance. Thus, the NBTE is able to use its fund efficiently. In overall the activity ratio shows that the firm position is good in average.

**3. From the Leverage Ratio it is known that:**

a) Debt equity ratio indicates the safety of margin to long term creditors. A low ratio implies the use of more shareholders equity funds than long term debt. This means a large safety for creditors. In case of NBTE the average ratio is 0.1265 which is low it means there is safety for the creditors. It is the good position of the firm.

b) Average debt to total capital ratio of NBTE is 0.1030. It indicates that owners are investing more amount than the creditors. It is safety for the creditors. In overall leverage ratio shows that firm's owners investing more amount than the outsiders. It shows the strong financial position of firm's.

**4. From the profitability ratio, it is known that:**

a) Average Gross Profit Ratio is 0.6586 times. This indicates that the firm earns the more than 65% profit during the study period. CV is 3.598%, this indicates that there is low variation in gross profit ratio by the help of this ratio the firm is not able to produce at low cost.

b) The average Net Profit Ratio is 0.3660. The CV is 14.97% this is very low variation. In overall the firm is in good position according to its earning level of net profit

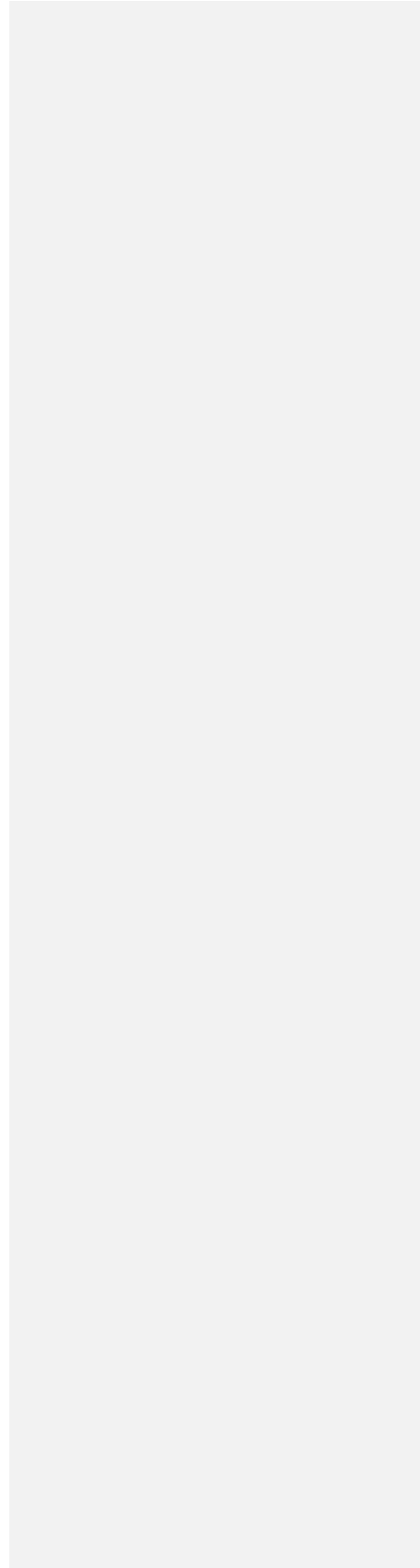
5. The trend percentage show that sales, total cost, production cost packing cost and factory cost are fluctuating nature. The trend of

gross profit, Net profit is increasing nature. The trend of administrative cost is increasing nature. The trend of inventory, sundry debtors, current assets and current liabilities are also increasing nature for the first two years and in fourth and fifth year the nature of trend is decreasing.

6. In statistical analysis we found that, sales and profit are high positive correlated, this shows that good performance of company. Correlation coefficient between sales and inventory also shows the low positive correlation, this is not good performance of the firm. Correlation between sales and current assets is 70.6887%, which is good for the firm. Again correlation coefficient between sales and current liabilities also shows the high positive correlation. And correlation between sales and debtors shows the high positive correlation, i e 71.94%. Positive correlation means increase in sales automatically increase in other correlated items and negative correlation means increase in sales automatically decrease in other negative correlated items.

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### 5.3 Recommendation

After analysis of financial statement of the selected private company NBTE, the following recommendation is given to NBTE to overcome their weakness and inefficiency to improve their financial performance in better way.

- a) NBTE is maintained the good liquidity position in study period. In order to keep this position for future the NBTE should increase its current assets or decrease its current liabilities. It is also suggested that the company should increase to maintain sufficient cash or bank balance to meet the immediate obligation.
- b) NBTE was unable to utilize its resources properly to generate sufficient production and sales. If the company able to utilize available capacity, the cost of production may decrease and sales increase because product are moving so fast, it is suggested to utilize maximum capacity for production.
- c) From the trend percentage analysis we found that the sales is fluctuating nature. The total cost, packing cost, factory cost are also fluctuating trend. It is not good for the firm's point of view. In same way inventory, sundry debtors and current liabilities were increasing way in first three years and fourth and fifth year in decreasing trend. This is good performance for the firm.
- d) From the correlation and regression analysis, we found that there is positive relationship between sales and profit. Sales and inventory, sales and net profit, sales and current assets, sales and current liabilities and sales and debtors. When a sales is

increase profit will increase and inventory will increase and current assets also increase, and current liabilities also increase, as a result debtors will also increase. NBTE is recommended to increase sales as seen firm correlation analysis.

a) — This study is concentrated only of the financial aspect of NBTE pvt. Ltd. And for this purpose financial analytical tools such as ratio analysis, correlation and regression analysis and trend equation are used. They will help the management and future researcher to evaluate the effects of financial polices, strategies and to take necessary steps to avoid risks on time. Therefore to carry on detail study it is recommended to future researcher to conduct research programmed on the other aspect and other activities of Nakalbandha Tea Estate Pvt. Ltd.

b) —

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### Income Statement

Particulars	060/061	061/062	062/063	063/064	064/065
Sales	35040000	39550000	41500000	3740000	37560000
Prod of cost	12040000	1256500	1293500	1257000	1375000
Factory cost	6595000	6837000	7055000	6984000	7765000
Packing cost	4215000	4570000	4715000	4654000	5213000
Total cost	12014000	12663500	13063500	12895000	14353000
Gross Profit	23026000	26886500	28436500	24245000	23207000
Adm. cost	(6332000)	(6570000)	(7092000)	(7340000)	(8535000)
Depreciation	(3400000)	(3570000)	(4220000)	(4230000)	(4400000)
Net Profit	13294000	16746500	17124500	12675000	10272000
Less: Tax @ 25%	3323500	4186625	4281125	3168750	2568000
Net Profit After Tax	9970500	12559875	12843375	9506250	7704000
Less: Dividend	498525	627994	642169	475313	385200
Net Income	9471975	11931881	12201206	9030937	7318800

### Balance Sheet

Particulars	060/061	061/062	062/063	063/064	064/065
Liabilities					
Current Liabilities	3764200	4154400	4510500	3714600	3462500
Total C. Liabilities	3764200	4154400	4510500	3714600	3462500
Long Term Loan	3792000	3799000	3752000	3801000	3754000
Share Capital	20000000	20000000	20000000	20000000	20000000
P/L A/C	9471975	11931881	12201206	9030937	7318800
Total Liabilities	37028175	39885281	40463706	36546537	
Assets					
Inventories	3476200	3643900	3546800	2974800	3085300
Sundry Debt	2246975	2552381	2673406	1855737	2156500

Cash at Bank	1855000	1654000	2150500	1954000	2125000
Total C. Assets	7578175	7850281	8370706	6784537	7366800
Total F. Assets	29450000	32035000	32093000	29762000	23706000
Total Assets	37028175	39885281	40463706	36546537	

## APPENDIX-1

### Ratio Analysis

1. Liquidity Ratio
2. Turnover Ratio
3. Capital Structure Ratio/Leverage
4. Profitability

1. Liquidity Ratio:

- a) Current Ratio      b) Quick Ratio

$$\text{a) Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

$$\text{For } 060/061 = \frac{7578175}{3764200} = 2$$

$$\text{For } 060/061 = \frac{7850281}{4154400} = 1.89$$

$$\text{For } 060/061 = \frac{8370706}{4510500} = 1.86$$

$$\text{For } 060/061 = \frac{6874537}{3714600} = 1.85$$

$$\text{For } 060/061 = \frac{7366800}{3462500} = 2.13$$

### Calculation of Standard Deviation

Fiscal Year	(x) Current Ratio	X <sup>2</sup>
060/061	2	4
061/062	1.89	3.5721
062/063	1.86	3.4596
063/064	1.85	3.4225
064/065	2.13	4.5369
	$\sum X = 9.73$	$\sum X^2 = 18.99$

Here,

$$N = 5, \sum X = 9.73, \sum X^2 = 18.99$$

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{9.73}{5} = 1.946$$

$$\text{Standard Deviation } (\delta) = \sqrt{\frac{\sum X^2}{N} - \left(\frac{\sum X}{N}\right)^2}$$

$$= \sqrt{\frac{18.99}{5} - \left(\frac{9.73}{5}\right)^2}$$

$$= \sqrt{3.79822 - 3.7869}$$

$$= \sqrt{0.01132}$$

$$= 0.1063$$

or, 10.63%

b) **Quick Ratio**

$$\text{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Current Liabilities}}$$

Calculation of Quick Ratio

Fiscal Year	Quick Assets	Current Liabilities	Ratio (x)	X <sup>2</sup>
060/061	4101975	3764200	1.089	1.1859
061/062	4206381	4154400	1.0125	1.025
062/063	4823906	4510500	1.069	1.1427
063/064	3809737	3714600	1.0256	1.0518
064/065	4281500	3462500	1.2365	1.5289

Here, N=5,  $\sum X = 5.4326$ ,  $\sum X^2 = 5.9343$

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{5.4326}{5} = 1.08652$$

$$\begin{aligned} \text{Standard Deviation } (\delta) &= \sqrt{\frac{\sum X^2}{N} - \left(\frac{\sum X}{N}\right)^2} \\ &= \sqrt{\frac{5.9343}{5} - \left(\frac{5.4326}{5}\right)^2} \\ &= \sqrt{1.18686 - 1.1805257} \\ &= \sqrt{0.0063343} \\ &= 0.07959 \\ &= 7.9588\% \end{aligned}$$

2. Turnover Ratio:

a) Inventory Turnover Ratio:

$$\text{Inventory Turnover Ratio} = \frac{\text{Sales}}{\text{Inventory}}$$

Calculation of Inventory Turnover Ratio

Fiscal Year	Sales	Inventory	Ratio (X)	X <sup>2</sup>
060/061	35040000	3476200	10.0799	101.6044
061/062	39550000	3643900	10.8538	117.8049
062/063	41500000	3546800	11.70	136.89
063/064	37140000	2974800	12.4848	155.870
064/065	37560000	3085300	12.1738	148.2014
			57.2923	660.3707

Here, N=5, X=57.2923, X<sup>2</sup>=660.3707

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{57.2923}{5} = 11.4585$$

$$\begin{aligned} \text{Standard Deviation } (\delta) &= \sqrt{\frac{\sum X^2}{N} - \left(\frac{\sum X}{N}\right)^2} \\ &= \sqrt{\frac{660.3707}{5} - \left(\frac{57.2923}{5}\right)^2} \\ &= \sqrt{132.074 - 131.2963} \\ &= \sqrt{0.7777} \\ &= 0.8818 \end{aligned}$$

b) Total Assets Turnover Ratio:

$$\text{Total Assets Turnover Ratio} = \frac{\text{Sales}}{\text{Total Assets}}$$

Calculation of Total Assets Turnover Ratio

Fiscal Year	Sales	Total Assets	Ratio (X)	X <sup>2</sup>
060/061	35040000	37028175	0.9463	0.8955
061/062	39550000	39885281	0.9916	0.9533
062/063	41500000	40463706	1.0256	1.05186
063/064	37140000	36546537	1.0162	1.03266
064/065	37560000	31072800	1.2088	1.4611
			5.1885	5.4244

Here, N=5,  $\sum X = 5.1885$ ,  $\sum X^2 = 5.4244$

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{5.1885}{5} = 1.0377$$

$$\begin{aligned} \text{Standard Deviation } (\delta) &= \sqrt{\frac{\sum X^2}{N} - \left(\frac{\sum X}{N}\right)^2} \\ &= \sqrt{\frac{5.4244}{5} - \left(\frac{5.1885}{5}\right)^2} \\ &= \sqrt{1.08488 - 1.07682} \\ &= 0.00806 \\ &= 0.089778 \end{aligned}$$

c) Capital Employed Turnover Ratio:

$$\text{Capital Employed Turnover Ratio} = \frac{\text{Sales}}{\text{Capital Employed}}$$

Fiscal Year	Sales	Capital Employed	Ratio (X)	X <sup>2</sup>
060/061	35040000	7578175	4.6238	21.3795
061/062	39550000	7850281	5.0380	25.3814
062/063	41500000	8370706	4.9577	24.5788
063/064	37140000	6874537	5.4025	29.1870
064/065	37560000	7366800	5.09855	25.9952
			25.12055	126.5219

Here, N=5, X=25.12055, X<sup>2</sup>=126.5219

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{25.12055}{5} = 5.02411$$

$$\begin{aligned} \text{Standard Deviation } (\delta) &= \sqrt{\frac{\sum X^2}{N} - \left(\frac{\sum X}{N}\right)^2} \\ &= \sqrt{\frac{126.5219}{5} - \left(\frac{126.5219}{5}\right)^2} \\ &= \sqrt{25.3044 - (5.02411)^2} \\ &= \sqrt{0.0627} \\ \delta &= 0.2504 \end{aligned}$$

3. Capital Structure Ratio/Leverage
  - a. Debt Equity Ratio
  - b. Debt to Total Capital Ratio
  - c. Total Debt to Total Assets Ratio

**a. Calculation of Debt Equity Ratio:**

We know,

$$\text{Debt Equity Ratio} = \frac{\text{Long Term Debt}}{\text{Shareholders Equity}}$$

Shareholder's Equity = Equity Capital + Profit for the year

Calculation of Debt Equity Ratio

Fiscal Year	Long Term Debt	Shareholders Equity	Ratio (X)	X <sup>2</sup>
060/061	3792000	29471975	0.1287	0.0166
061/062	3799000	31931881	0.1190	0.0142
062/063	3752000	32201206	0.1165	0.0136
063/064	3801000	29030937	0.1309	0.0171
064/065	3754000	27318800	0.1374	0.0189

Here, N=5,  $\sum X=0.632$ ,  $\sum X^2=0.0804$

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{0.6325}{5} = 0.1265$$

$$\begin{aligned} \text{Standard Deviation } (\delta) &= \sqrt{\frac{\sum X^2}{N} - \left(\frac{\sum X}{N}\right)^2} \\ &= \sqrt{\frac{0.0804}{5} - \left(\frac{0.6325}{5}\right)^2} \\ &= \sqrt{0.0161 - 0.0160} \\ &= \sqrt{0.0001} \\ &= 0.0100 \end{aligned}$$

**b. Calculation of Debt to Total Capital Ratio:**

$$\text{Debt to Total Capital Ratio} = \frac{\text{Long Term Debt}}{\text{Total Capital}}$$

Fiscal Year	Long Term Debt	Total Capital	Ratio (X)	X <sup>2</sup>
060/061	3792000	37028175	0.1024	0.0105
061/062	3799000	39885281	0.0952	0.0091
062/063	3752000	40463706	0.0927	0.0086
063/064	3801000	36346537	0.1040	0.0108
064/065	3754000	3102800	0.1208	0.0146

Here, N=5,  $\sum X = 0.5151$  ,  $\sum X^2 = 0.0536$

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{0.5151}{5} = 0.1030$$

$$\begin{aligned} \text{Standard Deviation } (\delta) &= \sqrt{\frac{\sum X^2}{N} - \left(\frac{\sum X}{N}\right)^2} \\ &= \sqrt{\frac{0.0536}{5} - \left(\frac{0.0536}{5}\right)^2} \\ &= \sqrt{0.0107 - (0.1030)^2} \\ &= 0.0100 \end{aligned}$$

**c. Total Debt to Total Assets Ratio:**

We know,

$$\text{Total Debt to Total Assets Ratio} = \frac{\text{Total Debt}}{\text{Total Assets}}$$

Fiscal Year	Total Debt	Total Assets	Ratio (X)	X <sup>2</sup>
060/061	7556200	37028175	0.2041	0.0416
061/062	7953400	39885281	.01994	0.0398
062/063	8262500	40463706	0.2042	0.0417
063/064	7515600	36546537	0.2056	0.0423
064/065	7216500	31072800	0.2322	0.0539

Here, N=5,  $\sum X = 1.0455$  ,  $\sum X^2 = 0.2193$

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{1.0455}{5} = 0.2091$$

$$\begin{aligned} \text{Standard Deviation } (\delta) &= \sqrt{\frac{\sum X^2}{N} - \left(\frac{\sum X}{N}\right)^2} \\ &= \sqrt{\frac{0.2193}{5} - \left(\frac{1.0455}{5}\right)^2} \\ &= \sqrt{0.0439 - 0.0437} \\ &= 0.0141 \end{aligned}$$

4. Profitability Ratio [Sales Related Ratio]:

- a) Net Profit Ratio
- b) Gross Profit Ratio
- c) Operating profit Ratio

a. Net Profit Ratio:

We know,  $\text{Net Profit} = \frac{\text{Net Profit}}{\text{Sales}}$

Fiscal Year	Net Profit	Sales	Ratio (X)	X <sup>2</sup>
060/061	13294000	35040000	0.3794	0.1439
061/062	16746500	39550000	0.4234	0.1793
062/063	17124500	41500000	0.4126	0.1703
063/064	12675000	37140000	0.3413	0.1165
064/065	10272000	37560000	0.2735	0.0748

Here, N=5,  $\sum X = 1.8302$  ,  $\sum X^2 = 0.6848$

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{1.8302}{5} = 0.3660$$

$$\begin{aligned} \text{Standard Deviation } (\delta) &= \sqrt{\frac{\sum X^2}{N} - \left(\frac{\sum X}{N}\right)^2} \\ &= \sqrt{\frac{0.6848}{5} - \left(\frac{1.8302}{5}\right)^2} \\ &= \sqrt{0.1370 - 0.1340} \\ &= 0.0548 \text{ or } 5.48\% \end{aligned}$$

b. Gross Profit Ratio:

We know,

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Sales}}$$

Fiscal Year	Gross Profit	Sales	Ratio (X)	X <sup>2</sup>
060/061	23026000	35040000	0.6571	0.4318
061/062	26886500	39550000	0.6798	0.4621
062/063	28436500	41500000	0.6852	0.4695
063/064	24245000	37140000	0.6528	0.4261
064/065	23207000	37560000	0.6179	0.3818

Here,  $N=5$ ,  $\sum X = 3.2928$  ,  $\sum X^2 = 2.1713$

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{3.2928}{5} = 0.6586$$

$$\begin{aligned} \text{Standard Deviation } (\delta) &= \sqrt{\frac{\sum X^2}{N} - \left(\frac{\sum X}{N}\right)^2} \\ &= \sqrt{\frac{2.1713}{5} - \left(\frac{3.2428}{5}\right)^2} \\ &= \sqrt{0.4343 - 0.4337} \\ &= 0.0237 \text{ or, } 2.37\% \end{aligned}$$

[Investment Related Ratio]

- a. Return on investment (ROI)
- b. Return on Equity (ROE)

- a. Return on Investment (ROI):

We know,

$$\text{Return on Investment (ROI)} = \frac{\text{Net Profit After Tax}}{\text{Total Assets}}$$

Fiscal Year	NPAT	Total Assets	Ratio (X)	X <sup>2</sup>
060/061	9970500	37028175	0.2693	0.0725
061/062	12559875	39885281	0.3149	0.0992
062/063	12843375	40463706	0.3174	0.1007
063/064	9506250	36546537	0.2601	0.0677
064/065	7704000	31072800	0.2479	0.0615

Here, N=5,  $\sum X = 1.4039$  ,  $\sum X^2 = 0.4016$

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{1.4039}{5} = 0.2808$$

$$\begin{aligned} \text{Standard Deviation } (\delta) &= \sqrt{\frac{\sum X^2}{N} - \left(\frac{\sum X}{N}\right)^2} \\ &= \sqrt{\frac{0.4016}{5} - \left(\frac{1.4039}{5}\right)^2} \\ &= \sqrt{0.0803 - 0.0788} \\ &= 0.0387 \end{aligned}$$

b. Return on Equity:

We know,

$$\text{Return on Equity} = \frac{\text{Net Profit After Tax}}{\text{Shareholder's Equity}}$$

Fiscal Year	NPAT	Shareholder Equity	Ratio (X)	X <sup>2</sup>
060/061	9970500	29471975	0.3383	0.1144
061/062	12559875	31931881	0.3933	0.1547
062/063	12843375	32201206	0.3988	0.1591
063/064	9506250	29030937	0.3275	0.1072
064/065	7704000	27318800	0.2820	0.0795

Here,  $N=5$ ,  $\sum X = 1.7399$  ,  $\sum X^2 = 0.6149$

$$\text{Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{1.7399}{5} = 0.3480$$

$$\begin{aligned} \text{Standard Deviation } (\delta) &= \sqrt{\frac{\sum X^2}{N} - \left(\frac{\sum X}{N}\right)^2} \\ &= \sqrt{\frac{0.6149}{5} - \left(\frac{1.7399}{5}\right)^2} \\ &= \sqrt{0.1230 - 0.1211} \\ &= 0.0436 \end{aligned}$$

## APPENDIX-2

### Statistical Analysis

1. Co-efficient of Correlation
2. Regression Analysis

1. Co-efficient of Correlation:

Co-efficient of Correlation between sales and profit

In

(0000)

Fiscal Year	Sales (X)	Profit (Y)	X <sup>2</sup>	Y <sup>2</sup>	XY
060/061	3504	1329.4	12278016	1767304.36	4658217.6
061/062	3955	1674.65	15642025	2804452.623	6623240.75
062/063	4150	1712.45	17222500	2932485	7106667.5
063/064	3714	1267.5	13793796	1606556.25	4707495
064/065	3756	1027.2	14107536	1055139.84	3858163.2
	19079	7011.2	73043873	10165938.07	269537840

$$\begin{aligned}
 r &= \frac{N \sum XY - \sum X \cdot \sum Y}{\sqrt{N \sum X^2 - (\sum X)^2} \sqrt{N \sum Y^2 - (\sum Y)^2}} \\
 &= \frac{5 \times 26953784.05 - 19079 \times 7011.2}{\sqrt{5 \times 73043873 - (19079)^2} \sqrt{5 \times 10165438.07 - (7011.2)^2}} \\
 &= \frac{1002235.45}{1100.51 \times 1293.35} \\
 &= 0.7041
 \end{aligned}$$

Coefficient of Correlation between sales and current

In (0000)

Fiscal Year	Sales (X)	Current A (Y)	X <sup>2</sup>	Y <sup>2</sup>	XY
060/061	3504	757.8175	12278016	574287.36	2655392.52
061/062	3955	785.0281	15642025	616269.12	3104786.14
062/063	4150	837.0706	17222500	700687.19	3473842.99
063/064	3714	687.4537	13793796	472592.59	2553203.04
064/065	3756	736.68	14107536	542697.42	2766970.08
	19079	3804.05	73043873	2906533.68	14554194.77

$$r = \frac{N \sum XY - \sum X \cdot \sum Y}{\sqrt{N \sum X^2 - (\sum X)^2} \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5 \times 14554194.77 - 19079 \times 3804.05}{\sqrt{5 \times 73043873 - (19079)^2} \sqrt{5 \times 2906533.68 - (3804.03)^2}}$$

$$= \frac{193503.9}{1100.51 \times 248.74}$$

$$= 0.706887$$

Coefficient of Correlation between Sales and Current Liabilities

In (0000)

Fiscal Year	Sales (X)	Current Liabilities (Y)	X <sup>2</sup>	Y <sup>2</sup>	XY
060/061	3504	376.42	12278016	141692.01	1318975.68
061/062	3955	415.44	15642025	172590.39	1643065.2
062/063	4150	451.05	17222500	203446.10	1871857.5
063/064	3714	371.46	13793796	137982.53	1379602.4
064/065	3756	346.25	14107536	119889.06	1300515
	19079	1960.62	73043873	775600	7514015.78

$$\begin{aligned}
 r &= \frac{N \sum XY - \sum X \cdot \sum Y}{\sqrt{N \sum X^2 - (\sum X)^2} \sqrt{N \sum Y^2 - (\sum Y)^2}} \\
 &= \frac{5 \times 7514015.78 - 19079 \times 1960.62}{\sqrt{5 \times 73043873 - (19079)^2} \sqrt{5 \times 775600 - (1960.62)^2}} \\
 &= \frac{163409.92}{1100.51 \times 184.307} \\
 &= 0.80564
 \end{aligned}$$

Coefficient of Correlation between Sales and Inventory

In (0000)

Fiscal Year	Sales (X)	Inventory (Y)	X <sup>2</sup>	Y <sup>2</sup>	XY
060/061	3504	347.62	12278016	120839.66	1218060.48
061/062	3955	364.39	15642025	132780.07	1441162.45
062/063	4150	354.68	17222500	125797.90	1471922
063/064	3714	297.48	13793796	88494.35	1104840.72
064/065	3756	308.53	14107536	95190.76	1158838.68
	19079	1672.7	73043873	563102.74	6394824.33

$$\begin{aligned}
 r &= \frac{N \sum XY - \sum X \cdot \sum Y}{\sqrt{N \sum X^2 - (\sum X)^2} \sqrt{N \sum Y^2 - (\sum Y)^2}} \\
 &= \frac{5 \times 6394824.33 - 19079 \times 1672.7}{\sqrt{5 \times 73043873 - (19079)^2} \sqrt{5 \times 563102.74 - (1672.7)^2}} \\
 &= \frac{60678.35}{1100.51 \times 132.62} \\
 &= 0.4157
 \end{aligned}$$

Coefficient of Correlation between Sales and Debtors

In (0000)

Fiscal Year	Sales (X)	Debtors (Y)	X <sup>2</sup>	Y <sup>2</sup>	XY
060/061	3504	224.6975	12278016	50488.97	787340
061/062	3955	255.2381	15642025	65146.49	1009466.69
062/063	4150	267.3406	17222500	71470.99	1109463.49
063/064	3714	185.5737	13793796	34437.59	689220.72
064/065	3756	215.6500	14107536	46504.92	809981.40
	19079	1148.49	73043873	268048.96	4405472.30

$$r = \frac{N \sum XY - \sum X \cdot \sum Y}{\sqrt{N \sum X^2 - (\sum X)^2} \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

$$= \frac{5 \times 4405472.30 - 19079 \times 1148.49}{\sqrt{5 \times 73043873 - (19079)^2} \sqrt{5 \times 268048.96 - (1148.49)^2}}$$

$$= \frac{115320.79}{1100.51 \times 145.66}$$

$$= 0.7194$$

2. Regression Analysis

Regression Analysis of Sales and Profit

In (0000)

Fiscal Year	Sales (X)	Profit (Y)
060/061	35040000	13294000
061/062	39550000	16746500
062/063	41500000	17124500
063/064	37140000	12675000
064/065	37560000	10272000
	$\sum X = 190790000$	$\sum Y = 70112000$

$$\bar{X} = \frac{\sum X}{N} = \frac{190790000}{5} = 38158000$$

$$\bar{Y} = \frac{\sum Y}{N} = \frac{70112000}{5} = 140224000$$

$$\begin{aligned}\delta X &= \sqrt{\frac{\sum X^2}{N} - \left(\frac{\sum X}{N}\right)^2} \\ &= \sqrt{\frac{73043873}{5} - \left(\frac{19079}{5}\right)^2} \\ &= \sqrt{14608774.6 - 14560329.64} \\ &= 2201021.58\end{aligned}$$

$$\begin{aligned}\delta Y &= \sqrt{\frac{\sum Y^2}{N} - \left(\frac{\sum Y}{N}\right)^2} \\ &= \sqrt{\frac{10165938.07}{5} - \left(\frac{7011.2}{5}\right)^2} \\ &= \sqrt{2033187.61 - 1966277.02} \\ &= 2586708.14\end{aligned}$$

$$CV_x = \frac{\delta X}{\bar{X}} = \frac{2201021.58}{38158000} = 0.0577 \text{ or, } 5.77\%$$

$$CV_y = \frac{\delta Y}{\bar{Y}} = \frac{2586708.14}{14022400} = 0.1845 \text{ or, } 18.45\%$$

### **Regression of Profit on Sales**

$$y - \bar{y} = r \frac{\delta x}{\delta y} (x - \bar{X})$$

$$y - 14022400 = 0.7041 \times \frac{220.102}{258.67} (x - 38158000)$$

$$\text{or, } y = 0.5991 x - 22861139.50 + 14022400$$

$$\text{or, } y = 0.5991 x - 8838739.50$$

### Regression Analysis of Sales and Current Assets

In (0000)

Fiscal Year	Sales (x)	Current Assets (y)
060/061	3504	757.8175
061/062	3955	785.0281
062/063	4150	837.0706
063/064	3714	687.4537
064/065	3756	736.68
	19079	3804.05 Approx

$$\bar{X} = \frac{19079}{5} = 3815.80$$

$$\bar{Y} = \frac{3804.05}{5} = 760.81$$

$$\delta X = \sqrt{\frac{\sum X^2}{N} - \left(\frac{\sum X}{N}\right)^2}$$

$$= \sqrt{\frac{73043873}{5} - \left(\frac{19079}{5}\right)^2}$$

$$= \sqrt{14608774.6 - 14560329.64}$$

$$= 220.102$$

$$\begin{aligned}\delta Y &= \sqrt{\frac{\sum Y^2}{N} - \left(\frac{\sum Y}{N}\right)^2} \\ &= \sqrt{\frac{2906533.68}{5} - \left(\frac{3804.05}{5}\right)^2} \\ &= \sqrt{581306.74 - 578831.86} \\ &= 49.7482\end{aligned}$$

$$CV_x = \frac{\delta X}{\bar{X}} = \frac{220.102}{3815.80} = 0.0577 \text{ or, } 5.77\%$$

$$CV_y = \frac{\delta Y}{\bar{Y}} = \frac{49.7482}{760.81} = 0.0654 \text{ or, } 6.54\%$$

#### Regression Equation of Current Assets on sales

$$y - \bar{y} = r \frac{\delta x}{\delta y} (x - \bar{X})$$

$$y - 760.81 = 0.7068 \times \frac{220.102}{49.7482} (X - 3815.80)$$

$$y = 3.1271x - 11932.4263 + 760.81$$

$$y = 3.127x - 11171.62$$

#### Regression Analysis of Sales and Current Liabilities

In (0000)

Fiscal Year	Sales (x)	Current Liabilities (y)
060/061	3504	376.42
061/062	3855	415.44
062/063	4150	451.05
063/064	3714	371.46
064/065	3756	346.25
	$\sum X = 19079$	$\sum Y = 1960.62$

$$\bar{X} = \frac{\sum X}{N} = \frac{19079}{5} = 3815.80$$

$$\bar{Y} = \frac{\sum Y}{N} = \frac{1960.62}{5} = 392.1240$$

$$\begin{aligned}\delta X &= \sqrt{\frac{\sum X^2}{N} - \left(\frac{\sum X}{N}\right)^2} \\ &= \sqrt{\frac{73043873}{5} - \left(\frac{19079}{5}\right)^2} \\ &= \sqrt{14608774.6 - 14560329.64} \\ &= 220.102\end{aligned}$$

$$\begin{aligned}\delta Y &= \sqrt{\frac{\sum Y^2}{N} - \left(\frac{\sum Y}{N}\right)^2} \\ &= \sqrt{\frac{775600}{5} - \left(\frac{1960.62}{5}\right)^2} \\ &= \sqrt{155120 - 153761.23} \\ &= 36.86\end{aligned}$$

$$CV_x = \frac{\delta X}{\bar{X}} = \frac{220.102}{3815.80} = 0.0577 \text{ or, } 5.77\%$$

$$CV_y = \frac{\delta Y}{\bar{Y}} = \frac{36.86}{392.1240} = 0.0940 \text{ or, } 9.40\%$$

Regression Equation of Current Liabilities on Sales

$$y - \bar{y} = r \frac{\delta x}{\delta y} (x - \bar{X})$$

$$y - 392.1240 = 0.80564 \times \frac{220.102}{36.86} (x - 3815.80)$$

$$y = 4.8107x - 3074.16 + 392.1240$$

$$y = 4.8107x - 2682.036$$

### Regression Analysis of Sales and Inventory

In (0000)

Fiscal Year	Sales in Rs. (x)	Inventory in Rs. (y)
060/061	3504	347.62
061/062	3855	364.39
062/063	4150	354.68
063/064	3714	297.48
064/065	3756	308.53
	X = 19079	Y = 1672.70

$$\bar{X} = \frac{\sum X}{N} = \frac{19079}{5} = 3815.80$$

$$\bar{Y} = \frac{\sum Y}{N} = \frac{1672.70}{5} = 334.54$$

$$\delta X = \sqrt{\frac{\sum X^2}{N} - \left(\frac{\sum X}{N}\right)^2}$$

$$= \sqrt{\frac{73043873}{5} - \left(\frac{19079}{5}\right)^2}$$

$$= \sqrt{14608774.6 - 14560329.64}$$

$$= 220.102$$

$$\begin{aligned}\delta Y &= \sqrt{\frac{\sum Y^2}{N} - \left(\frac{\sum Y}{N}\right)^2} \\ &= \sqrt{\frac{563102}{5} - \left(\frac{1672.70}{5}\right)^2} \\ &= \sqrt{112620.55 - 111917} \\ &= 26.5245\end{aligned}$$

$$CV_x = \frac{\delta X}{\bar{X}} = \frac{220.102}{3815.80} = 0.0577 \text{ or, } 5.77\%$$

$$CV_y = \frac{\delta Y}{\bar{Y}} = \frac{26.5245}{334.54} = 0.0793 \text{ or, } 7.93\%$$

#### Regression Equation of Inventory on Sales

$$y - \bar{y} = r \times \frac{\delta x}{\delta y} (x - \bar{X})$$

$$y - 334.54 = 0.4157 \times \frac{220.102}{26.5245} (X - 3815.80)$$

$$y - 334.54 = 3.4495x - 13162.60$$

$$y = 3.4495x - 13162.60 + 334.54$$

$$y = 3.4495x - 12828.06$$

#### Regression Analysis of Sales and Debtors

Fiscal Year	Sales in Rs. (x)	Debtors (y)
060/061	3504	224.6975
061/062	3855	255.2381
062/063	4150	267.3406
063/064	3714	185.5737

064/065	3756	215.65
	$\sum X = 19079$	$\sum Y = 1148.49$

$$\bar{X} = \frac{\sum X}{N} = \frac{19079}{5} = 3815.80$$

$$\bar{Y} = \frac{\sum Y}{N} = \frac{1148.49}{5} = 229.6980$$

$$\begin{aligned} \delta X &= \sqrt{\frac{\sum X^2}{N} - \left(\frac{\sum X}{N}\right)^2} \\ &= \sqrt{\frac{73043873}{5} - \left(\frac{19079}{5}\right)^2} \\ &= \sqrt{14608774.6 - 14560329.64} \\ &= 220.102 \end{aligned}$$

$$\begin{aligned} \delta Y &= \sqrt{\frac{\sum Y^2}{N} - \left(\frac{\sum Y}{N}\right)^2} \\ &= \sqrt{\frac{268048.96}{5} - \left(\frac{1148.49}{5}\right)^2} \\ &= \sqrt{53609.79 - 52761.17} \\ &= 29.1311 \end{aligned}$$

$$CV_x = \frac{\delta X}{\bar{X}} = \frac{220.102}{3815.80} = 0.0577 \text{ or, } 5.77\%$$

$$CV_y = \frac{\delta Y}{\bar{Y}} = \frac{29.1311}{229.6980} = 0.1268 \text{ or, } 12.68\%$$

Regression Equation of Debtors on Sales

$$y - \bar{y} = r \frac{\delta x}{\delta y} (x - \bar{X})$$

$$y - 229.6980 = 0.719 \times \frac{220.102}{29.1311} (X - 3815.80)$$

$$y = 5.4355x - 2745.0865 + 229.6980$$

$$y = 5.4355x - 2515.3885$$

Calculation of Sales Trend of NBTE

F/Y (x)	Sales (y)	X = (x-062/063)	X <sup>2</sup>	XY	Yc = a+bx	Y- Yc
060/061	3504	-2	4	-7008	3763.2	-259.2
061/062	3855	-1	1	-3955	3789.5	165.5
062/063	4150	0	0	0	3815.80	334.20
063/064	3714	1	1	3714	3842.10	-128.10
064/065	3756	2	4	7512	3868.40	-112.40
n = 5	Y = 19079	X = 0	$\sum X^2 = 10$	$\sum XY = 263$	Yc = 19079	

We know,

The straight line trend is given by the following formula.

$$Y = a + bx \text{ -----(i)}$$

$$a = \frac{\sum Y}{n}, b = \frac{\sum XY}{\sum X^2}$$

$$a = \frac{19079}{5}, b = \frac{263}{10}$$

$$a = 3815.8, b = 26.3$$

$$\therefore Yc = 3815.8 + 26.3x \text{ -----(ii)}$$

If X = 065/066

Then, Y = 3815.8 + 26.3 x 4 = 3894.70

If X = 066/067

Then, Y = 3815.8 + 26.3 x 4 = 3921

Where,

Y = Value of Sales

a = Total Sales

b = Rate of change of Sales

Calculation of Profit Trend of NBTE

F/Y (x)	Profit (y)	x = (x-062/063)	X <sup>2</sup>	XY	Yc = a+bx	Y - Yc
060/061	1329.4	-2	4	-2658.8	1604.55	-275.15
061/062	1674.65	-1	1	-1674.65	1503.39	171.26
062/063	1712.45	0	0	0	1402.24	310.21
063/064	1267.5	1	1	1267.5	1301.085	-33.585
064/065	1027.2	2	4	2054.4	1199.93	-172.73
n = 5	∑Y = 7011.2	X = 0	∑X <sup>2</sup> = 10	∑XY = 1011.55	7011.195	

We know,

The straight line trend is given by following formula,

$$Y = a + bx \text{ ----- (i)}$$

$$a = \frac{\sum Y}{n}, \quad b = \frac{\sum XY}{\sum X^2}$$

$$a = \frac{7011.2}{5}, \quad b = \frac{1011.55}{10}$$

$$a = 1402.24, \quad b = -101.155$$

$$\therefore Yc = a + bx$$

$$= 3815.8 + 26.3x \text{ -----(ii)}$$

If  $x = 065/066$

$$Y_c = 1402.24 - 101.155 \times 3 \\ = 1098.775$$

If  $x = 066/067$

$$Y_c = 1402.24 - 101.155 \times 4 \\ = 997.62$$

Where,

Y = Value of Profit

a = Total Profit

b = Rate of Change of Profit

Calculation of Current Assets Trend of NBTE

F/Y (x)	Profit (y)	$x = (x - 062/063)$	$X^2$	XY	$Y_c = a + bx$	Y - Yc
060/061	757.8175	-2	4	-1515.64	788.78	-30.96
061/062	785.0281	-1	1	-785.0281	774.795	10.23
062/063	837.0706	0	0	0	760.81	76.26
063/064	687.4537	1	1	687.4537	746.825	-59.37
064/065	736.68	2	4	1473.36	732.84	3.84
n = 5	Y = 3804.05	X = 0	$\sum X^2 = 10$	-139.85	3804.05	

We know,

The straight line trend is given by the following formula.

$$Y = a + bx \text{ -----(i)}$$

$$a = \frac{\sum Y}{n}, \quad b = \frac{\sum XY}{\sum X^2}$$

$$a = \frac{3804.05}{5}, \quad b = \frac{139.85}{10}$$

$$a = 760.81, \quad b = -13.985$$

$$y = a + bx$$

Now, Putting the value of a and b in equation (i)

$$Y_c = 760.81 - 13.985x \text{ -----(ii)}$$

$$\text{If } x = 065/066$$

$$Y_c = 760.81 - 13.985 \times 3$$

$$Y_c = 718.855$$

$$\text{If } x = 066/067$$

$$Y_c = 760.81 - 13.985 \times 4$$

$$Y_c = 704.87$$

Where,

Y = Value of Current Assets

a = Total Profit

b = Rate of Change of Current Assets

Calculation of Current Liabilities Trend of NBTE

F/Y (x)	Profit (y)	x = (x-062/063)	X <sup>2</sup>	XY	Y <sub>c</sub> = a+bx	Y - Y <sub>c</sub>
060/061	376.42	-2	4	-752.84	412.988	-36.568
061/062	415.44	-1	1	-415.44	402.556	12.884
062/063	451.05	0	0	0	392.124	58.926
063/064	371.46	1	1	371.46	381.699	-10.232
064/065	346.25	2	4	692.5	371.26	-25.01
n = 5	1960.62	X = 0	$\sum X^2 = 10$	-104.32	1960.62	

We know,

The straight line trend is given by the following formula.

$$Y = a + bx \text{ -----(i)}$$

$$a = \frac{\sum Y}{n}, \quad b = \frac{\sum XY}{\sum X^2}$$

$$a = \frac{1960.62}{5}, \quad b = \frac{-104.32}{10}$$

$$a = 392.124, \quad b = -10.432$$

Now, Putting the value of a and b in equation (i)

$$Y = a + bx$$

$$Y = 392.124 - 10.432x \text{ -----(ii)}$$

$$\text{If } x = 065/066$$

$$Y_c = 392.124 - 10.432 \times 3$$

$$Y_c = 360.828$$

$$\text{If } x = 066/067$$

$$Y_c = 392.124 - 10.432 \times 4$$

$$Y_c = 350.396$$

Where,

Y = Value of Current Liabilities

a = Total Profit

b = Rate of Change of Current Liabilities

Calculation of Inventory of NBTE

F/Y (x)	Profit (y)	$x = (x - 062/063)$	$X^2$	XY	$Y_c = a + bx$	$Y - Y_c$
060/061	347.62	-2	4	-695.24	363.558	-15.938
061/062	364.39	-1	1	-364.39	349.049	15.341
062/063	354.68	0	0	0	334.54	20.14
063/064	297.48	1	1	297.48	320.54	-22.551
064/065	308.53	2	4	617.06	305.522	3.008
n = 5	Y = 1672.7	X = 0	$\sum X^2 = 10$	-145.09	1672.70	

We know,

The straight line trend is given by the following formula.

$$Y = a + bx \text{ -----(i)}$$

$$a = \frac{\sum Y}{n}, \quad b = \frac{\sum XY}{\sum X^2}$$

$$a = \frac{1672.7}{5}, \quad b = \frac{-145.09}{10}$$

$$a = 334.54, \quad b = -14.509$$

Now, putting the value of a and b in equation (i)

$$Y = a + bx$$

$$Y = 334.54 - 14.509x \text{ -----(ii)}$$

$$\text{If } x = 065/066$$

$$Y_c = 334.54 - 14.509 \times 3$$

$$Y_c = 291.013$$

$$\text{If } x = 066/067$$

$$Y_c = 334.54 - 14.509 \times 4$$

$$Y_c = 276.504$$

Where,

Y = Value of Inventory

a = Total Inventory

b = Rate of Change of Inventory

Calculation of Debtors Trend of NBTE

F/Y (x)	Profit (y)	x = (x-062/063)	X <sup>2</sup>	XY	Y <sub>c</sub> = a+bx	Y - Y <sub>c</sub>
060/061	224.6975	-2	4	-449.395	247.2498	-22.5523
061/062	255.2381	-1	1	-255.2381	238.4739	16.7642
062/063	267.3706	0	0	0	229.698	37.6426
063/064	185.5737	1	1	185.5737	220.9221	-35.3484
064/065	215.65	2	4	431.30	212.1462	3.5038

n = 5	Y = 1148.49	X = 0	$\sum X^2$ = 10	XY = - 87.7594	1148.49	
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We know,

The straight line trend is given by the following formula.

$$Y = a + bx \text{ -----(i)}$$

$$a = \frac{\sum Y}{n}, \quad b = \frac{\sum XY}{\sum X^2}$$

$$a = \frac{1148.49}{5}, \quad b = \frac{-87.7594}{10}$$

$$a = 229.698, \quad b = -8.7759$$

Now, putting the value of a and b in equation (i)

$$Y = a + bx$$

$$Y = 229.698 - 8.7759x \text{ -----(ii)}$$

$$\text{If } x = 065/066$$

$$Y_c = 229.698 - 8.7759 \times 3$$

$$Y_c = 203.3703$$

$$\text{If } x = 066/067$$

$$Y_c = 229.698 - 8.7759 \times 4$$

$$Y_c = 194.5944$$

Where,

Y = Value of Debtors

a = Total Debtors

b = Rate of Change of Debtors

3.

