CHAPTER-I

INTRODUCTION

1.1 General Background

Nepal's economy is heavily characterized by pre-dominant agriculture, 39% of GDP is driving from agriculture and 76% of the population is employing in this sectors. Nowadays, the overall performance of this sector has been declining. But the role of manufacturing industries in the national economy is not satisfactory. Therefore, Nepal is under critical juncture in its modern economic situation.

Industrialization plays a crucial role in the process of economic development and its importance is as a means of achieving economic growth and prosperity within the country. It is believed that in order to achieve security, stability and a high standard of living the country must become industrialized. The most important reason for embarking on performance of industrialization is to increase the national income. Hence, industrialization is universally accepted as a strategy of economic development as well as fundamental goals of most developing countries. Industrialization in poverty stricken country like Nepal is an effective means of achieving economic development like most other developing countries one of the important aspirations of Nepal has been to bring out a structural that would transform its agricultural economy into an industrial one. In order to increase national employment there should be optimum utilization of natural, human and capital resources within the country and improved the balance of payment**.** Industrialization is one of the major tools with the aid of which the various circle of backwardness and poverty can be broken Thus, whether industrialization is necessary in developing countries or not is no longer discussed and what is discussed is how to industrialized.

After the economic liberalization in 1950 and onward business activities have been increased considerably but the business organizations are still hanging in inefficiency, performance of these organization are not well enough to meet the threats of global competition. Management and other problems are inherent features of Nepalese organization and these problems are even more for manufacturing organization. To increase overall efficiency to address total quality management, it is necessary to take into account working capital theory which business performs s operational activities.

Working capital is said to be lifeblood of business. If managed well, the company remains healthy and strong but if managed poorly, the company goes into the fathom of difficulties to the point of no return. Working capital, the most important field of finance is very crucial for smooth and healthy operation of all kinds of business irrespective of whether the business is seeking or not the profit, private or public, sole trading or pathernership. Among all the options, proper management of working capital is the best possible option to improve organization operational viability. In other words, working capital deals with the matrix of current assets and current liabilities. Every manufacturing firm needs various types of assets to run the production process without any interruption. Some assets are required to meet the needs of regular production and some to meet the expenses and short-term obligation of a firm, so management has to managed properly different types of assets especially required to run the major components is working capital without which other things are useless. So, the success or failure of any organization depends on its strategy, which is affected by working capital management.

Amount invested in the form of raw materials, cash, and semi finished goods, etc put together is called working capital. There are two concepts of working capital, net concept and gross concept. A net concept of working capital is excess of current assets over current liabilities. Gross concept is the total current assets. It is particularly useful for business in deciding the size of the investment in each type of current assets, inadequate investment in working capital threatens the solvency of the companies where as excessive

investment affects firm's profitability. The working capital is the lifeblood and controlling nerve center of the business. The excess working capital as well as short working capital is harmful for business. Therefore, proper use of working capital is necessary for these organizations.

This study is a descriptive, explorative study on "working capital management". This study is focused on the theoretical and empirical study in relation to working capital management of ULNLtd. By employing statistical and financial tools, this study will try to give valuable recommendations and measures for correcting deviations. This study will be of great significance for the ULNLtd and similar nature of enterprises and concerned parties.

1.2 Focus of the Study

There are various types of assets and liabilities in every enterprise to run smoothly. One of the most important assets is current assets, which is required to meet the daily or short-term obligation. Like equipment, manpower, etc.working capital is the major component for daily operation. In the absence of working capital other things are useless. Working capital is that portion of total assets, which circulates from one to another in the ordinary conduct of business. Working capital management is a crucial aspect of financial management including the administration of all aspects of the current asset and current liabilities, which plays vital role for success or failure of organization.

This study focuses on the various aspects of the working capital management of Unilever Nepal Limited (ULNLtd.). This study covers the current assets management policy, current assets utilization and current assets structure. Moreover, this study focuses on the finding of this enterprise for achieving goals. Following are focuses points of the study.

- Profitability and liquidity position of ULNLtd.
- Analysis of working capital structure and working capital utilization of ULNLtd.

- Cash conversion cycle of ULNLtd.
- Focuses on the relation of working capital variables.

1.3 Statement of the Problem

Working capital management decisions is the most sensitive for every firm. It is wilder activity in the working capital decision. It has various factors affecting the decisions, it should maintain optimal level of working capital. Determining the optimum level of working capital is the crux problems of every business organization .it constrained to maintain the trade- off between risk and return.

In the context of Nepal, enterprises face the various problems to manage the working capital due to the unproductive manpower, unclear financial market, unclear government policies etc. Managers still focus their attention on their procurement aspect of working capital but, there is not on the efficient utilization of funds defined information on working capital, there is no budgeting in enterprise for the next year, clear market research and other scenario for the future planning .In the unclear vision every business decision puzzle the management of working capital decision and other business decision, every enterprise wants to earn on their investment. The working capital management not only attacks profitability position in the short run but it also effects the survival in the long run of the organization .So every firm must maintain the sound working capital components for the effective and efficient utilization of funds in business organizations. Nepalese business industrialization process is in a very slowly process. In spite of various attractive policies of government is respect to industrialization, new investment on industrial sector is not satisfactory.

The established of manufacturing industries, the financial composition and performance of Nepalese enterprises are not so satisfactory most of the industries were operating in losses and such condition discourage the new investment due to established enterprises financial position. The poor performance of manufacturing industrial atmosphere affects

various reasons in the internal, external and financial environment. Such problem should be investigated and removed form the organization is the most important to corrective measurement for the improvement of their performance. Without effective and efficient financial management the firm is not reach of this target point,

The following research questions have been raised in this study.

- What are the major factors affecting the management of working capital in ULNLtd?
- Is the overall profitability of firm satisfactory?
- Are there sound liquidity positions in manufacturing companies like ULNLtd?
- Are the inventory conversions, receivable collection and payable deferral period are ultimately cash conversion cycle appropriate?
- How working capital is being financed in ULNLtd?
- How far is the company being able to utilize its current assets properly?

1.4 Objectives of the Study

The main objective of this study is to examine the working capital management of Uni-Lever Nepal Limited. The specific objectives of this study are as follows:

- To assess the liquidity and profitability position of ULNLtd.
- To determine the structure and utilization of working capital of ULNLtd.
- To know the working capital policy of ULNLtd.
- To determine the factor determining level of working capital.
- To provide necessary suggestions & recommendation for future improvement.

1.5 Significance of the Study

This study is concerned with the theoretical, explanation and practical application of working capital management in ULNLtd. Working capital involves the large portion of the firm's total assets, about more than half of the total assets. On the other hand, financial manager is used to killing long time span in managing of working capital. Investment in fixed assets can be reduced through renting and leasing but the investment

in current assets are unavoidable. This study might be helpful for ULNLtd in relation to the working capital management. Therefore, this study will be great references: -

- It will help other similar nature of manufacturing enterprises to determine and manage working capital.
- It will be useful for government to formulate appropriate economic policy for their enterprises.
- It will help for new financial manager or new business to take decision on efficient working capital management deciding its component strategies.
- This study helps to evaluate impact of working capital on profitability of business enterprises.
- This study might be valuable for the researcher, scholars and students who want to investigate into the working capital management.

1.6 Limitations of the Study

Limitations exist everywhere and this study is not also an exception of it. Most of the private companies' financial data may be invalid in Nepalese context. In other words, financial statements may not disclose the true financial data and information. In the case of companies set up in private sectors, access to internal information for outsiders is not possible; preparation of multiple financial statements is open secret and common practice in private sector. So, the conclusion based on the available financial statements might not be correct in reality. Followings are some limitation under which this study has been conducted.

- The analysis will be based upon the primary as well as secondary data, which will be provided from the Unilever Nepal Limited Company and the reliability & validity of these data.
- This study covers the time period of five years from 2060/061 to 2064/065.

- The major sources are the secondary data of financial statement of ULNLtd, which are extracted from the progress report of ULNLtd, Nepal Stock Exchange and other published and unpublished data.
- This study has done for the partial fulfillment of M.B.S (Degree). So, it is not as comprehensive study.
- The constraint of time and financial resource is another limitation of the study.

1.7 Organization of the Study

This study has been divided into five major chapters. These are as follows.

Chapter I Introduction: This chapter deals with background, a brief overview of UniLever Nepal Limited, focus of the study, statement of the problem, objective of the study, significance of the study and limitation of the study.

Chapter II Review of Literatures: This chapter deals with the review of related literatures and available studies written and conducted by different experts and researchers in the field by working capital.

Chapter III Research Methodology: This chapter presents the methodology used in this study. It deals with research design, population and sample, sources of data, data processing, financial & statistical tools used for the study.

Chapter IV Presentation and Analysis of data: This chapter fulfills the objective of the study by presenting the data and analyzing them with the help of various statistical tools followed by methodology.

Chapter V Summary, Conclusion & Recommendation: The last chapter summarizes the whole study. Moreover, it draws the conclusions and forwards the recommendation for the improvement of working capital management of ULNLtd.

CHAPTER II
REVIEW OF LITERTURE

The main objective of this chapter is to review the available literature on different magazine, journals, newspaper and books about working capital management in the context of Nepalese enterprises. The purpose of reviewing the literature is to develop some expertise in one's are to, see what new contribution can be made, and to receive some ideas for developing a research design. Thus, previous studies cannot be ignored as they provide the foundation to the present study. This chapter is broadly divided into four sections.

2.1 Conceptual framework

2.2 Review of articles/journals

2.3 Review of thesis

2.4 Research gap

2.1 Conceptual Framework

Working capital management is concerned with the problem that arises in the management of the current assets & current liabilities .It affects the overall functional areas of the firm. Thus, the success or failure of any manufacturing firms virtually depends upon the efficiency of working capital management .So, it is the lifeblood of any firm. Fixed assets and capital are supportive investment for working capital to obtain corporate mission, for which optimum mix are needed.

Working capital is a firm's investment in short-term assets which is known as current assets. This can be converted into cash within an accounting year in an ordinary operation. The current assets are cash, short-term securities, account receivables and inventories .In simple language, working capital represents that portion of total assets,

which circulates from one to another firm in the ordinary conduct of business. “Working capital is defined as all the short-term assets used in daily operation, these consists primarily of cash, marketable securities, account receivables and inventory”. (Hampton; 1998).The term working capital and total current assets are same or synonymous. “It is also known as circulating capital” (Kuchhal; 1998).Circulating capital represents that part of fund, which circulates from one item of current assets to another in the ordinary course of business. The idea embraces the recurring transaction from cash to inventories then to receivables to cash. “The working capital is the capital needed to conduct day-to day operation of business.”(Pradhan; 1986). “In practice, the term working capital refers not only to both current assets, but working capital will use this term more broadly to refers to both current assets and current liabilities” (Jain; 1996).The current liabilities are those liabilities, which have to be paid in ordinary course of business within an accounting year. It includes bank overdraft, account payable, outstanding expenses, bills payable etc.Two types of working capital –gross and net are in practice. Gross working capital refers to the current asset and net working capital refers total current assets minus total current liabilities.

Working capital management is concerned with the management of current assets and current liabilities in optimum level for day-to-day operation. “Working capital management involves the administration, within policy guidelines of current assets and current liabilities” (Weston, Basley and Brigham; 1996). Working capital management seeks proper policy for management of current assets and current liabilities and practical techniques for maximizing the benefits from managing working capital. “An effective management of working capital is the primary means of achieving the firm’s goal of adequate liquidity” (Hampton; 1998). “Working capital management is concerned with the problem that arises within organization attempting to manage the current assets, the current liabilities and the inter-relationship that exits between them.”(Khan; 1990).Working capital management policy influences the determination of the appropriate level of current assets and their efficient use as well as the choice of the

method of financing them, keeping in a view of liquidity .Working capital management is not only concerned with current assets and current liabilities but it is also concerned with "all kinds of problems that arises in attempting to manage the current assets, current liabilities and interrelation ship that exit between them."(Pradhan; 1998).

The enterprise depends on the quality of WCM. "WCM involves decision regarding the account and composition of current assets and to finance these assets. These decisions involve trade-off between risk and profitability" (Kuchhal; 1998). Both excess working capital and less working capital are harmful to the business. Higher the relative proportion of liquid assets, lesser the risk if all other being equal, however profitability also will be less because idle investment on working capital earns nothing .The result of inadequate amount of working capital threatens the solvency of organization ,if it fails to meet current obligation.

Therefore, WCM is a continuous process requiring crucial and critical decision. Working capital management involves deciding upon the amount and composition of current assets and financing them. The investing and financing decision on WCM is planning, utility and controlling its current assets in terms of the requirement of the company, and is basically concerned with profitability and liquidity position of the enterprise.

2.1.1 Concept of Working Capital

Generally, there are two concepts of working capital .Gross working capital and net working capital.

2.1.1.1 Gross Working Capital

The gross working capital concept refers to the capital invested in current assets and financing of current assets. It includes cash, short-term securities, inventory, and account receivables. This concept is also known as quantitative concept because it does not concern with the current liabilities. GWC indicates the total sum of current assets. "The

gross working capital is represented by current assets appearing on the asset side of balance sheet" (Sharma; 1967). This concept emphasis that excessive investments in current assets affect the profitability as idle investment yields nothing. From the management view point, "gross working capital deals with the problems of managing individual assets in the day-to-day operation."(Kuchhal; 1998). Symbolically gross working capital is:

Gross working capital =Total Current assets.

The GWC concept focuses the attention on general two assets of working capital (current assets) management which are:

(a) Optimum investment in current assets and

(b) Financing mix of current assets.

The level of investment in current assets should be just adequate. The level of current assets may be fluctuating with the changing business activity. Thus, this concept can help earning more profit through maximum utilization of current assets.

2.1.1.2 Net Working Capital

The net working capital refers to the difference between current assets and current liabilities. Current liabilities are those liabilities which are intended at their inception to be paid in the ordinary course of business within an accounting year. NWC concept is also known as qualitative concept of working capital. This shows the liquidity position. . . "Net working capital can be positive or negative .A positive net working capital will arise when current assets exceed current liabilities .A negative net working capital occurs when current liabilities are in excess of current assets" (Pandey;1999). NWC is that portion of firm's current assets, which is financed with long term funds.

Symbolically NWC is:

NWC= Total Current Assets-Total Current Liabilities.

The NWC concept helps to determine optimum mixture of short-term capital and long term capital of business organization, which is used to analyze the profitability, liquidity

and risk –return position of organization. “The net concept is more useful, if the purpose is to find out liquidity position of enterprise.”(Pradhan; 1986). So, short-term creditors want an enterprise to maintain current asset at a higher level as compared to current liabilities .This concept is more useful for running business.

2.1.2 Types of Working Capital

There are two type of working capital finding in manufacturing company. Those two types of working capital are Permanent Working Capital and Variable Working Capital

2.1.2.1 Permanent Working Capital

The amount of working capital required for the business to maintain a minimum level of current assets for the whole period is called permanent working capital. Permanent working capital is also known as fixed working capital. It is comprises of minimum cash balance, minimum level of inventory etc. The nature of this capital is similar to the capital invested in the fixed assets. Both these capital cannot be withdraws from the business. Financing of this working capital by using short-term sources needs to renew the loan respectively. If the suppliers of fund of disagree to renew the loans, firm has to go for fresh loan to repay the existing short-term debt. The compulsion of taking loan within a short period may cause an increase in the rate of interest. Much of the time of financial manager will spent on the renewal and management of loan. Therefore, it is desirable to finance the permanent working capital by using long- term sources like long –term debt or equity. Requirement of permanent working capital may increase due to inflation or growth in sales. This incremental requirement of permanent working capital can be financed by using internal sources.

2.1.2.2 Variable Working Capital

In most business the required of working capital may be high during a particular season and it comes down during other periods. This additional portion of working capital which is required during peak business season is known as variable or temporary or seasonal

working capital. Variable working capital is required during peak season only. This portion of working capital can withdraw from the business after end of such season. Therefore, it is desirable to finance the temporary working capital from short- term external sources like trade credit, commercial paper, arrangement of other short term loan from the bank. Because such short-term loans can easily repaid after the peak business season. If this portion of this working capital is financed through permanent or long- term sources, this fund will either remain idle or invested in marketable securities earning at a lower rate. As a result the earning of the company will be adversely affected.

2.1.3 Sources of Working Capital

The required of the working capital depends upon the organization objectives, time situation and time period. This suggests that dependence on only one or specific sources of capital may create obstacles and problems. Therefore, the enterprise has to use combination of one or more sources of capital in management of working capital. After ascertaining the amount of working capital needed to the enterprises, permanent capital can be collected from capital market where as working capital collected from money market. According to nature of working capital, following different sources may be available (Kuchhal; 1998).

2.1.3.1 Sources of Permanent or Fixed Working Capital

Long term sources are used to meet the requirement for permanent or fixed working capital. Main sources are described as follows:

(i)Issues of shares: The enterprises can issues ordinary and preference share taking consideration on capital structure of enterprises for the collection of permanent working capital. Issues of preference share is better than to issues ordinary share to collect working capital because a redeemable preference share can be returned when firm does not need it.

(ii)Issue of debenture: When the working capital requirement is permanent and non seasonal, the corporation can issues debenture, being a fixed burden on corporate earning. The managerial board will be free from debenture-holders who have no any right on management and control of enterprises.

(iii)Public deposit: The reputed enterprises accept deposit from public for several years. On these deposits certain predetermined interest should be paid in certain time.

(iv) Ploughing back of profit: These important sources of permanent working capital are generated from the business operation in profit. Required permanent working capitals are fulfilled from the retained earning which is the same portion of profit without distributing to shareholders.

(v)Special financial institution: The reliable sources of permanent working capital are commercial banks, financial institution and other organized institution. They provide short term or mid-term loan facilities.

2.1.3.2 Sources of Temporary or Variable Working Capital

The short term sources are used to meet the requirement of working capital. Some special variable working capital sources are as follows:

(i). Private loans: Taking loans from personal or private sources fulfills the working capital need of the organization. Firm takes short loans from personal investor, businessmen, landlords, friends and relatives.

(ii).Commercial banks: Commercial bank collects small scattered saving from various people and firms, which are invested in industries and business. They provide short term loans in the form of cash credit, overdraft facilities, discounting of bills of exchange, etc.

(iii).Ploughing back of profit: It can be the source of seasonal working capital in addition to permanent working capital. It is very popular and quick source of working capital financing.

(iv).Public deposit: Public deposit can also be the sources of variable working capital by collecting small scattered saving for operating business.

(v).Financial institution: Financial institutions are established with certain objectives, such as NIDB, ADB, RDB, etc.which provides short term, mid term and long term loans as per required for the enterprises.

(vi).Trade credit: The trade credit is the most popular sources of working capital. Sellers provide credit to buyers for short period without any mortgage, which is termed as trade credit. "The trade credit means providing credit by one business to another business. The supply of goods or services by producers to other firms like retail traders for some time without making immediate payment is an example of trade credit"(Joshi and Dongol;2056).

2.1.4 Issue of Working Capital Management

The management spends time and resources on working capital management. But some enterprises are successful to earn more profit through balance working capital policy. Generally, working capital management faces the following issues :(Pradhan; 1992).

- Size of working capital to maintain-size of each type of current assets.
- Source of financing-short or long term, and debt or equity financing.
- Cost of financing- cost of short term Vs long term financing.
- Risk associated with types of financing trade off between cost and risk.
- Maintain of current ratio, minimizing the risk of cash flow problem.

2.1.5 Goals of Working Capital Policies

Working capital policies are the basis guidelines or strategies to achieve target financial performance in relation to working capital. Following are the firm's goals of working capital (Hampton; 1998).

2.1.5.1 Adequate Liquidity

The most important goal of working capital policy is to achieve adequate liquidity for the conduct of day-to-day operation .With the lack of sufficient cash to pay their bills when due, they will experience continuing problems.

2.1.5.2 Minimization of Risk

Relatively current liabilities are the source of financing which may involve low costs. The firm must ensure that these near term obligations (current liabilities) do not become excessive compared to the current asset on hand to pay them. The matching of assets and liabilities among current is a task of minimizing the risk.

2.1.5.3 Contribute to Maximum Firm's Value

The firm retains working capital for the some purpose as it holds any other assets to maximize the present value of common stock and value of the firm. The investment of excess cash, minimization of inventories, speedy collection of receivables, and elimination of unnecessary and costly short-term financing all contribute to maximizing the value of the firm.

2.1.6 Needs for Working Capital

Most of firms aim at maximizing the wealth of shareholders. The firms should earn sufficient return from its operation. The extent to which profit can be earned naturally depends upon the magnitude of sales among the other things. Specially, working capital required to spend on raw materials, salary, wages, rent, electricity, advertisement and

other sales related expenses. The need for working capital can be categorized into the following ways.

2.1.6.1 Transaction Motive

A business firms holds cash for smooth running of business. The conduct its ordinary business and making purchases and sales, working capital is needed. In the business, where billings are predictable cash inflows, can be scheduled and synchronized with the need for the cash outflow. In a seasonal business more cash may be needed and if firms want to operate transaction smoothly, they have to keep inventory of raw materials and finished goods. Generally, a business firm invests on marketable securities that can be converted into cash in a short time. It is temporary investment. So, to run business smoothly in an uninterrupted basis, a business firm has to manage working capital for transaction motive.

2.1.6.2 Compensation Balance Motive

The commercial bank performs many functions for business firms. Sometimes, firm pays service charge by direct fee and sometimes by maintaining compensation balance. Compensation balance is the advance deduction bank on loan. It represents that the firm agrees to maintain in its checking account with the bank. With this assurance, the bank can provide such funds as long term loan.

2.1.6.3 The Precautionary Motive

Precautionary motive is the need to hold cash and inventories to guard against the risk of unpredictable change in demand and supply forces and other factors such as strike, failure of important customers, unexpected slow down in collection of account receivable, cancellation of some order for goods and some other unexpected emergency. Thus, the firm needs the working capital to meet any contingencies in future.

2.1.6.4 The Speculative Motive

The working capital is needed to meet the speculative motive which refers to the desires of a firm to take advantage of the following opportunities.

(a) Opportunities of profit making investment.

(b) An opportunity to purchase raw material at a reduced price on payment of immediate cash.

(c) To speculate on interest rate and

(d) To purchase at favorable price, etc.

To grab these opportunities, the business enterprises have to manage cash and marketable securities. It also represents ‘war chest’ or pool of funds which a firm may draw quickly to meet a short term opportunity, including acquisition.

2.1.7Approaches to Estimating Working Capital Needs

To determine working capital needs, some useful methods are applied in practices. Some appropriate methods of caculating working capital needs of a firm are as follows (Pandey; 1999).

2.1.7.1 Current Assets Holding Period

It is to estimate working capital requirement on the basis of average holding period of current assets and relating them to costs based on the company’s experience in the previous years. This method is essential based on the operating cycle concept.

2.1.7.2 Ratio of Sales

It is to estimate working capital requirement as a ratio of sales on the assumption that current asset with sales.

2.1.7.3 Ratio of Fixed Investment

It is to estimate working capital requirement as a percentage of fixed investment

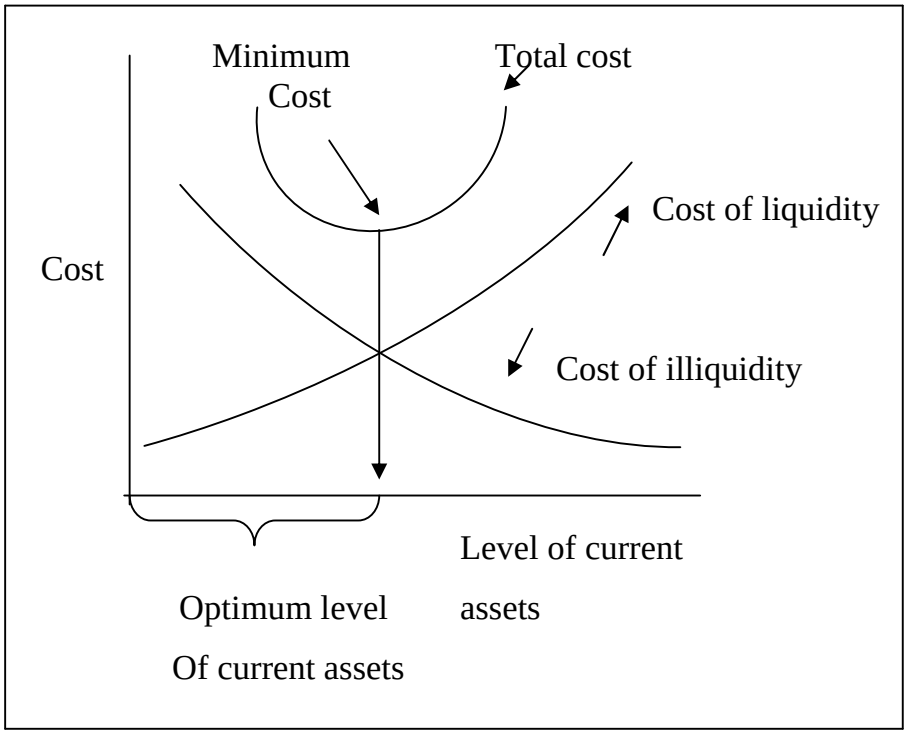
2.1.8 Liquidity Vs Profitability: Risk-Return Trade Off

The firm may follow a conservative or an aggressive policy which involves risk-return trade off. “Determination of the appropriate level of investment in the different components of current assets and the size of current liabilities involves decision concerning the trade off between liquidity, profitability and risks.”(Gopal, 1996). The objective of conducting risk-return analysis is to know whether the firms are following an aggressive, a conservative or a moderate approach. When a firm has followed an aggressive approach, the current liabilities are used to finance a position of fixed asset. In the conservative approach the firm uses only long-term funds to finance all kind of current assets and fixed assets without making use of any of the current liabilities .On the moderate approach firm uses long-term funds to finance a portion of current assets. When current assets holding at the minimum level would mean interrupted production, sales and solvency. “Its current assets holding will depend on its working capital policy. These policies involve risk return trade-offs.”(Pandey; 1999).

2.1.9 The Cost of Trade-Off

Working capital management involves decision upon the amount and composition of current assets and how to finance these assets .This decision involves trade-off between risk and reputability, cost of maintaining a particular level of current assets. These costs are: the cost of liquidity and the cost of illiquidity. “The cost of liquidity increased with the level of current assets. The cost of illiquidity is the cost of holding insufficient current asset”(Pandey;1992). The greater the relative proportion of liquid assets, the lesser the risk of running out of cash if all things are equal, result will be less profitability. “In determining the optimum level of current assets, the firm should balance the profitability-solvency tangent by minimizing total cost –cost of liquidity and cost of illiquidity.” (Pandey; 1999).

Figure 2.1 The Cost of Trade Off



Sources: Pandey I.M. Financial Management 1999

The figure shows the level of current assets and cost of liquidity .In the figure when the cost of liquidity increases, cost of illiquidity decrease and vice-versa. The firm should maintain its current assets at the level where the sum of cost of liquidity and cost of illiquidity are minimum.

2.1.10Working Capital Cycle

The working capital cycle can be defined as

The period of time, which chases between the points at which, cash begins to be expended on the production of a product and the collection of from customers.

Cash flows with cycle into, around out of business. It is the business life blood, every manager's primary task is to help keep it flowing, and to use the cash flow to generate profits. If a business is operating profitability, then it should, in theory, generate cash

surpluses. If it does not generate surpluses, the business will eventually run out of cash and expire.

The faster a business expends the more cash it will need for working capital and investment. The cheapest and best sources of cash exist as working capital right within business. Good management of working capital will generate cash will help improve profits and reduce risks. Bear in mind that the cost of providing credit to customers and holding stocks can represent a substantial proportion of a firm's total profits.
There are two element in the business cycle that absorb cash-inventory (stocks and work-in progress) and receivables (debtors owing money). The main sources of cash are payables (our creditors) and equity loans.

Each component of working capital (namely inventory, receiveables and payables) has two dimensions TIME….. and MONEY…..When it comes to managing working capital TIME IS MONEY .If you get money to move faster around the cycle (e.g. collect monies due from debtors more quickly) or reduce the amount of money tied up (e.g. reduce inventory levels relative to sales),the business will generate more cash or it will need to borrow less money to fund working capital .Consequently ,you could reduce the cost of bank interest or you have additional free money available to support additional sales growth or investment .Similarly ,if you can negotiate improved terms with suppliers e.g. .get longer credit or an increased credit limit; you effectively create free finance to help fund future sales.

If You	Then...
Collect receivables (debtors) Faster.	You release the cash from the cycle.
Collect receivables (debtors) Slower.	Your receivables soak up cash.
Get better credit (in terms of duration or amount) from suppliers.	You increase your cash resources.
Shift inventory (stocks) faster.	You free up cash.
Move inventory (stocks) slower.	You consume more cash.

It can be tempting to pay cash, if available ,for fixed assets e.g. computers ,plants ,vehicles etc.,if you pay cash, remember that this is now larger available for working capital .Therefore ,if cash is tight ,consider other ways of financing capital investment ,loans ,equity, leasing,etc.Similarly ,if you pay dividends or increase drawings, these are cash outflows and ,like water flowing downs a plughole, they remove liquidity from the business.

2.1.11Working Capital Policy

The component of the working capital constitutes the current assets and their way of financing i.e. current liability .In an enterprise, the level and the quality of the current assets and current liabilities is guided by the working capital policy and management adopted by it .Working capital management involves all aspects of the administration of current assets and current liabilities .In other word, "Working capital management is concerned with the problem that arise in attempting to manage the current assets and current liabilities, and the interrelationship that exist between them".(Smith;1974). Working capital policy refers to decision relating to the target level investment and the financing mix of current assets working capital policy concern with two basic issues among firms balance sheet item. These two policies are regarding; "a) What is the

approximate level of current assets, both in the total and by specific accounts, and b) how the required level of current assets should be financed?"(Weston, Basley and Brigham; 1996).

The issues, in the WCM, are that firm has to determine how much funds should be invested in working capital in gross concept. Every firm adopts different financing policy according to the financial manager's attitude toward the risk-return trade-off. One of the most important decisions of financial manager how much current liabilities should be used to finance current assets .So working capital policy is related to the level of each category of current assets and financing of current liabilities on it.

2.1.11.1 Current Asset Investment Policy

Current asset investment policy refers to the policy regarding the total amount of current assets to be carried to support the given level of sales. There are three alternative current assets investment policy which are follows (Weston, Basley and Brigham; 1996).

(i) Fat-Cat or Relaxed Working Capital Policy

In this policy, the firm holder relatively large amount of cash, marketable securities, inventory and receivables to support a given level of sales. This policy creates longer inventory and cash conversion cycle .It also create the longer receivables collection period due to the liberal credit policy. Thus, this policy provides the lowest expected return on investment with lower risk.

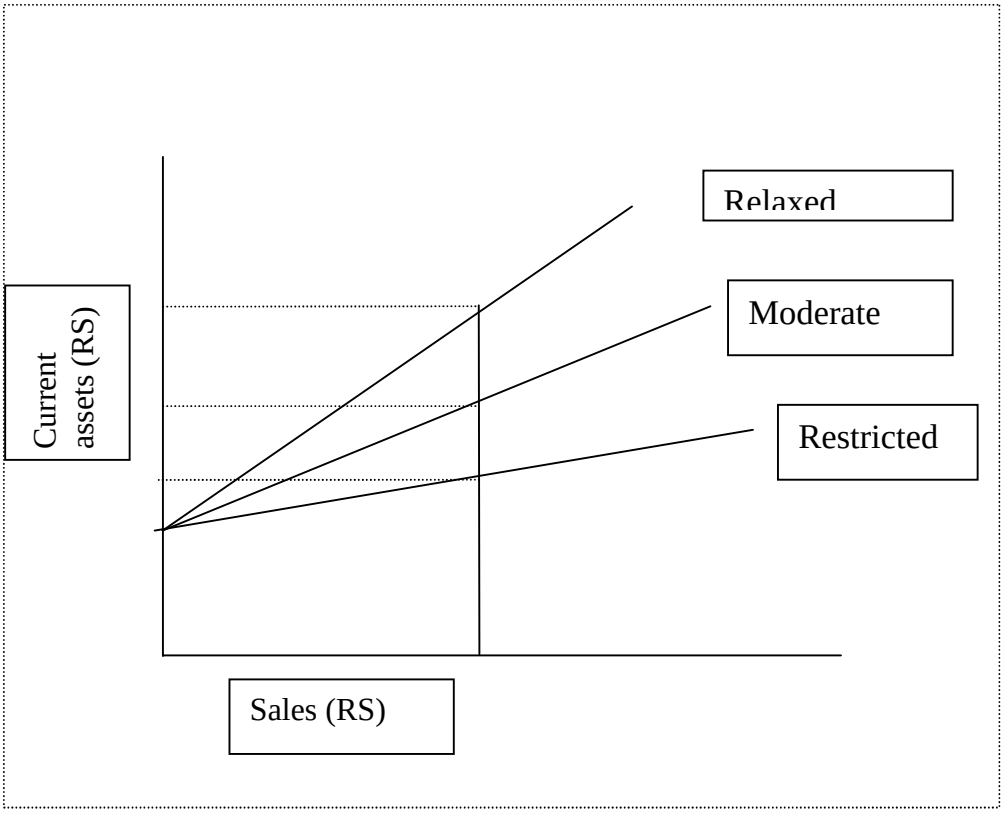
(ii) Lean and Mean Policy or Restricted Current Asset Investment Policy

In this WC investment policy, a firm holds the minimum amount of cash, marketable securities, inventory and receivable to support a given level of sales. This policy trends to reduce the conversion cycle. Under this policy, firm follows to tight credit policy and bears risk of losing sales.

(iii) Moderate Current Assets Investment Policy

In this policy, a firm holds the amount of current assets in between the relaxed and restrictive policy .Both risk and return are moderate in this policy.

Figure: 2.2 Current Assets Investment Policy



Sources Weston, Basley and Brigham, Essential of Managerial Finance; 1996

2.1.11.2 Current Assets Financing Policy

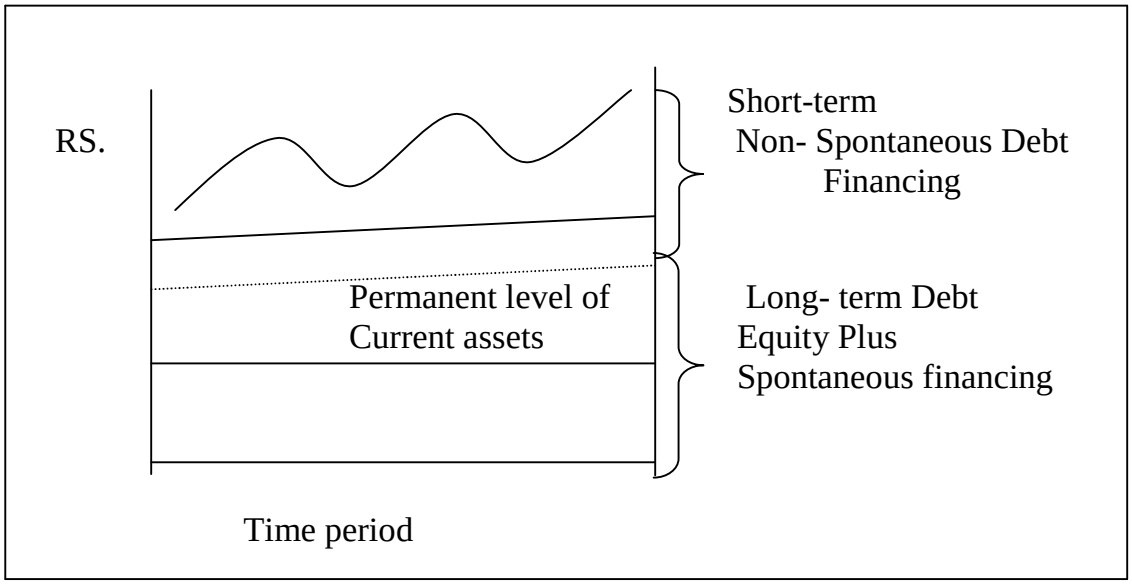
Financing the long term or short term funds to current assets has significant impact on an enterprises risk or return, liquidity and profitability. "Deciding how should current liabilities be used to finance current assets is one of the most important decisions concerning working capital management" (Pradhan; 1986). Long term as well as short term funds involves cost and cost of financing is a deciding factor in the use of different type of funds. Financing policy deals with the optimum financing mix of short term and

long term liabilities. Depending upon attitude towards risk, liquidity and profitability, the management can follow following three alternative working capital financing approaches.

(i) Aggressive or Tight Working Capital Financing Approach

In this policy, the firm finances not only temporary current assets but also a part of the permanent current assets with short-term financing sources and rest with long term financing sources. In other word, the firm finances not only temporary current asset but also a portion of permanent current asset with short term financing. Some aggressive firms may even finance a part of their fixed asset with short-term financing. Hence, this sort of mix financing increases the profitability and expense toward risk by financing relatively larger position of its assets through lower cost short term borrowing. Under this policy, higher the risk, higher the return and low liquidity position.

Figure: 2.3 Aggressive Financing Policy.

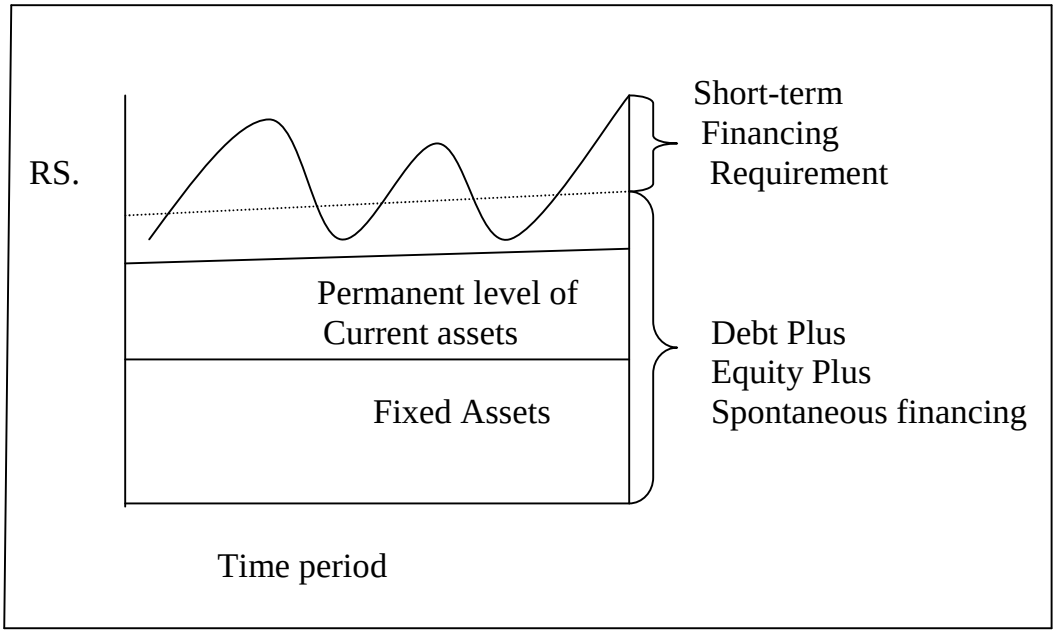


Sources Weston, Basley and Brigham, Essential of Managerial Finance; 1996

(ii) Conservative Policy

Conservative approach "refers to a financing mix which is less risky leading to low profitability and high liquidity, the approach would be to finance all funds required from long term funds"(Pradhan; 1986). The financing policy of firm is said to conservative when it depend more on long term funds for financing needs. "Under this financing policy, the firm finances its permanent assets and a part of temporary current assets with long term financing" (Pandey; 1999). This policy leads to high level of current assets, with long term conversion cycle, low level of current liabilities and higher interest cost. The risk and return are lower than that of aggressive one. The risk adverse management follows this policy.

Figure 2.4 Conservative Policy



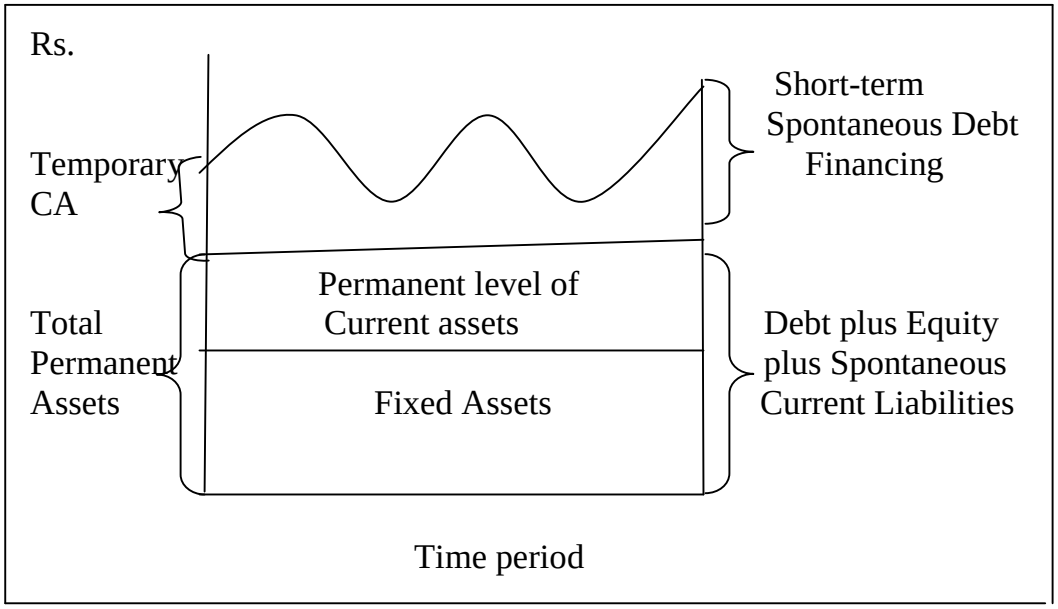
Sources Weston, Basley and Brigham, Essential of Managerial Finance; 1996

(iii)Maturity Matching/Hedging/Self Liquidity/Moderate Approach

This approach of working capital policy entails moderate risk with moderate returns. This firm can adopt a financial plan which involves the matching of the expected life of assets with the expected life of the sources of funds raised to finance assets. When the firm

follows matching approach, long term financing will be used to finance fixed assets and permanent current assets and short-term financing to finance temporary or variable current assets (Pandey; 1999). This approach tries to achieve trade off between profitability and liquidity with neither too risky nor least risky by financing mix. “It lies in between a low-liquidity, high profitability case and a high –liquidity low profitability case”(Pradhan ; 1986).

Figure 2.5 Moderate Policy



Sources Weston, Basley and Brigham, Essential of Managerial Finance; 1996

In conclusion, conservative or loose working capital policy refers to that policy under which a firm keeps high level of investment in working capital variables like high level of receivable throughout liberal policy, high inventory and cash/bank balance while aggressive or tight working capital policy just follows the reverse policy that of former policy. But moderate policy follows the medium way between aggressive and conservative working capital policy.

2.1.12 Determinants of Working Capital

The importance of efficient working capital management is an aspect of over all financial management. Thus a firm plans its operation with adequate working capital requirement or it should neither too excess nor too inadequate working capital. But there are no sets of rules or formulate to determine the working capital requirements of the firm. It's because of a large number of factors that influence the working capital requirement of the firm. A number of factors affect different firm in different ways. Internal policies and environment change also affect the working capital. Generally, the following factors affect the working capital requirements of the firm.

(i)Nature & Size of Business

The working capital requirement of a firm is basically related to size and nature of the business. If the size of the firm is larger, then it requires more working capital. While small firm needs less working capital .Trading and financial require larger amount of working capital relatively to public utilizes.

(ii) Manufacturing Cycle

Working capital requirement of an enterprise is also influenced by the manufacturing or production cycle .It refers to the time involved to make the finished goods from the raw materials. During the process of manufacturing cycle funds are tied-up. The longer the manufacturing cycle, the larger will be the working capital requirement and vice-versa.

(iii) Production Policy

Working capital requirement is also determined by its production policy. If a firm produces seasonal goods, then its production and sales volume fluctuates with different seasons. This type of fluctuating production policy affects the working capital policy of the firm.

(iv) Credit Policy

Credit policy also affects the working capital of a firm. Working capital requirement depends on term of sales. Different term may be followed to different customers according to their credit worthiness. If the firm follows the liberal credit policy, then it requires more working capital .Conversely, if a firm follows the stringent credit policy, it requires less working capital.

(v) Availability of Credit

Availability of credit facility is another factor that affects the working capital requirements. If the creditors avail a liberal credit terms, then the firm will need less working capital and vice-versa. In other words, the firm can get credit facility easily on favorable conditions. Thus, it requires less working capital to run the firm otherwise more working capital is required to operate the firm smoothly.

(vi) Growth and Expansion

Growth and expansion also affect the working capital requirement of a firm. However, it is difficult to precisely determine the relationship between the growth and expansion of the firm and working capital needs. But the other things being the same growing firm needs more working capital than those static ones.

(vii) Price-level Change

Price-level change also affects the working capital requirement of a firm. Generally, a firm requires maintaining the higher amount of working capital if the price level rises. Because the same level of current assets needs more funds due to the increasing price. In conclusion, the implications of changing price level on working capital position will vary from firm to firm depending on the nature and other relevant consideration of the operation of the concerned firms.

(viii) Operating Efficiency

Operating efficiency is also important factor, which influences the working capital requirement of the firm. It refers to the efficient utilization of available resources at minimum cost. Thus, financial manager can contribute to strong working capital position through operating efficiency. If a firm has strong operating efficiency then it needs fewer amounts of working capital and vice-versa.

(ix) Profit Margin

The level of profit margin differs from firm to firm .It depends upon the nature and quality of products, marketing management and monopoly power in the market .If the firm deals with the high quality product and has a sound marketing management and enjoyed the monopoly power in the market then it earns quite high profit & vice-versa. Profit is the source of working capital, because it contributes towards the working capital as a pool by generating more internal funds.

(x) Level of Taxes

The level of taxes also influences working capital requirement. The amount of taxes to be paid in advance is determined by the prevailing tax regulations. But the firm's profit is not constant, or can't be predetermined .Tax liability in a sense of short-term liquidity is payable in cash. Therefore, the provision for tax amount is one of the important aspects of working capital planning .If tax liability increases; it needs to increase the working capital & vice-versa.

(xi) Cash Requirements

Cash is one of the current assets, which is essential for the successful operations of the production cycle. Cash should be adequate and properly utilized. Adequate cash is also required to maintain good credit relation.

(xii) Business Fluctuations

This situation whether an organization operating is boom or recession or depression period also determine the working capital needs of the organization.

(xiii) Change in Technology

Technology developments related to the production process have a sharp impact on the need for working capital. Change in technology will need additional amount of working capital due to fresh investment in new fixed assets.

2.2Reviews of Journals /Articles

This section is also important for literature review of working capital. For the study of this section many latest information can be derived about related field. This part is mainly focused on the review of journals and research studies published by different management experts about working capital management.

Joseph (1962) has presented the article on “Working Capital Concept”. This article looks a fresh at the problem of determining working capital, and purpose a simple yet comprehensive restatement of principle with respect to current assets and current liabilities. The working capital measures the liquidity, the fluidity of capital and serves as an indicator of balance sheet in the assets and liability structure of the company. Bank and the other short-term creditor are vitally interested in the amount of working capital from the stand point of evaluating the prospect of repayment of their claim against the company.

Nunn (1981) examined why firms have different level of working capital. The paper dealt with the strategic determinant of working capital (cash, short-term securities, account receivable and inventory) on a product line basis .The factors analysis is to test 1666 variables against the working capital policies of over 1700 business, or product lines,

from 1971 to 1978 .his final multiple regression models contained 19 variables pertaining to productions, sales, accounting, competitive position and industry factors.

Working Capital Model= Sales + Production + Accounting + Competitive Position +Industry factors.

This model was used to explain why working capital levels differ between firms both within and across industries.

Shrestha (1982) in his study "Working Capital Management in Public Enterprises and Study the Financial Results and Constraints" has considered ten-selected public enterprises and studied the working capital management of those public enterprises. The study states the managers often lack basis knowledge of working capital and its overall impact on the operative efficiency and financial viability of public enterprises .This study has focused on liquidity, turnover and profitability position of sampled enterprise. Based on those factors, the study has brought certain policy issues of Nepalese public enterprise. Such as lack of suitable financial planning, negligence toward working capital management ,deviation liquidity and turnover of assets and inability to show positive relationship between turnover and return on net working capital. This study has suggested the measures to overcome such policy issues like identifications of needed funds, regular checks and development of management information system, positive attitude towards risk and profit and determination of right combination of short-term and long-term sources to finance working capital requirements.

Pradhan and Koirala (1983) had jointly published an article on "Some Reflections of Working Capital Management in Nepalese Corporations". This article aims to find out the difficulty, problems and importance of current assets management and also aims to find out the motive for holding cash and inventory. The study use only primary data to find out the basic constraints and distributed 200 questionnaires. For the purpose of study, they use both manufacturing public corporation as a sample companies. After analyzing the collected data the major findings of this study are as follows:

- To provide a reserve for routine net outflows of cash is the major motive for holding cash in Nepalese corporation.
- The major reason for holding inventories is to facilitate smooth operation of production and sales.
- The major factor affecting the large investment in receivable is found to be the liberal credit policy followed by Nepalese corporation. The large paying practice of customer is also responsible for larger investment in receivable. However, corporations are reluctant to take inefficient collection of trade credit as one of the major factor affecting receivables.

Acharya (1985) has published an article on "Problems and Impediment in The Management of Working Capital in Nepalese Enterprises". This article has presented that working capital management; especially in public sector, has been a relatively weak area. The study has described operational problems as well as organizational problems faced by the Nepalese public enterprises regarding the working capital management. Some of these problems are:

The operational problems are as follows

- Public enterprises has slow inventory turnover.
- Change in working capital has low impact on profitability.
- Current liabilities are increasing largely than current assets.
- They have not followed the conventional proportion of debt and equity as 1:1.
- Absent and apathetic information management system.
- The performance evolution tools and techniques like break even analysis, fund flow analysis, ratio analysis, are either undone or inefficient in most public enterprises.
- Monitoring the proper functioning of working capital management has never considered as managerial job.
- Secondly, the organizational problems are:

- Lack of regular evaluation of financial as well as regular internal and external audit system.
- Most of public enterprises being unable to present their capital requirements with proper justifications.
- Functioning of finance department was not satisfactory.
- Some of public enterprises are facing the problem of under utilization of capital.

This study is not satisfied with the performance of enterprises. To make an efficient use of funds for minimizing the risk of loss to attain the profit objectives. This study has made some suggestion and recommendation.

- Public enterprises should take care of negatively affecting policies directives from Govt. of Nepal itself.
- Public enterprises should avoid fictitious holding of assets immediately.
- Finance staff must be adequainted with the modern scientific tools used for the presentation and analysis of data.
- Lastly, this study has suggested optimizing its level of investment because both of these situations will erode the efficiency of concern.

Weinurb and Visscher (1998) have carried out a study on industry practice relating to aggressive, conservative working capital policies. This study looked at ten diverse industry groups over an extend time period to examine the relative relationship between aggressive and conservative working capital practices. Results of strongly show that the industries had significantly different current assets management policies. Additionally the relative industry ranking of the aggressive /conservative liability management was also significantly different. Interestingly, it is used where there is a high and significant negative correlation between industry current assets and liability policies. Relatively aggressive working capital management seems balanced by conservative working capital financial management.

Zeng (2002) made an empirical study on the working capital channel and cross-sector co-movement. The paper studied cross-sector co-movement, one of the defining characteristic of business cycle, in a monetary framework. The study argues that monetary factors might be important for understanding this phenomenon through a working capital channel. The study showed that in a strictly portfolio adjustment model where firm borrow to finance working capital, appositive money supply shock drives the nominal interest rate down, thereby stimulating firm's borrowing and causing employment to rise in different sectors. A positive aggressive technology shock can also drive the nominal interest rate down upon impact and reduce co-movement when the elasticity of labour supply is large.

Mahat (2004) has published article relating to "Spontaneous Resources Working Capital Management". The article has defined the three major sources of working capital i.e. equity financing, debt financing and Spontaneous sources of financing, regarding the working capital management. Debt financing include short term, bank financing such as bank overdraft, cash credit, bills purchase and discounting, letter of credit etc. where as spontaneous sources of working capital include trade credit, provisions and accured expenses.

The articles has defined that working capital management is one of the important pillars of corporate finance. However, Nepalese industries are facing difficulty in their survival by the cause of recession, which can bring best and worst in corporate finance such as environment should be enough to cope with the possible worst happening in future for working capital management. The study has said that managing the working capital resources for a profit making industries are routine affairs of just making payment and arranging collection of debtors. In contrast, the company in debt trouble, it is rather difficult to meet its working capital gap by the way of debt financing, the company should have to bear interest, which may cause to increase in the percentage of operating

expenses to the turnover and depletion in the profit. Therefore, spontaneous sources of working capital will better to working capital in order to improve its performance.

Consequently in a changed economic scenario, ever company should realize that inability to manage working capital might lead them in a vicious circle that can be hard to get out form. It is indeed essential for industries to tighten their belts and check their financial stability to face and stand in forth coming competitive day.

2.3 Review of Thesis

Besides the review of available books and research studies, a number of studies have been made by student of MBA and MBS relating to working capital management in different PEs and private companies of Nepal. This section will review some of those dissertations.

Pathak (1994) has done a research on "An Evaluation of Working Capital Management of Nepal Lube Oil Limited". The objectives of this study are to appraise the working capital management of NLOLtd and to study the relationship between sales and different variables of working capital. To achieve these objectives, this study has taken five year period and applied the secondary data.

This study has found that the current assets with respect to total assets. According to this study, the growing tendency of investment over current assets could have adverse effects in NLOLtd's wealth maximization goals in long run.

The study has suggested that NLOLtd should determine certain rate of return on investment and sales target should be set. The company should always concern about the current assets and current liabilities and regular check should make. It will control the excess and shortage of working capital of the company. This study has also given the

advice that the company should give attention to manpower planning and should avoid both under staffing and over staffing.

Sharma (1999) has done a research on "A Study on Working Capital Management of Nepal Battery Co. Limited". Considering five years financial statement (i.e. balance sheet, profit and loss A/C and income statements, etc.) from 1994 to1998. This study has used ratio analysis as tools for the purpose of analyze working capital management in NBCLtd. The major objectives of this study are to analysis the liquidity composition of working capital, assets utilizations and profitability position of NBCLtd. This study also focuses on relationship between sales and different variables of working capital of NBCLtd. The findings of this study are as follows:

- The major component of working capital of NBCLtd are cash and bank balance, account receivable, inventory, miscellaneous current assets and inventory holds large portion of current assets. The proportion of current assets on total assets and fixed assets is increasing, it indicates that inventory in current assets is high with respect to its total assets and fixed assets.
- Inventory to total assets ratio shows fluctuating trend and receivable to total asset position show increasing trend. The turnover position is in fluctuating trend and receivable conversion period and inventory conversation period is long which is unfavorable for the company.
- Values of current and quick ratios are found nearly equal to standard inefficiency in operation can be seen through wide different between gross profit margin and net profit margin and high level of operating ratio.

This study has suggested the company to reduce the inventory level. This study recommends about receivable conversion period, which is necessary to reduce with concerning sales volume because reduction of this period may affect on sales volume. Lastly, this study mentions about operating cost, which must be reduced in proper way so that can maximize its profitability and shareholders return.

The study has selected only one company (NBCLtd) out of thirty two manufacturing companies for this study as a first listed manufacturing company in Nepal stock exchange. This study can not provide overall picture of all manufacturing companies. The study has basically used the secondary data and only ratio analysis has used to study the working capital management of NBCLtd. This study has missing the use of correlation coefficient in order to test the relationship on significance in between component of working capital.

Kunwar (2000) has carried out a research on "Working Capital Management of Pharmaceutical Industry of Nepal with Reference to Royal Drugs Limited". The study has used statistical as well as financial tools to analyze the statement of 2049/50 to 2054/2055. the main objective of this study is to analyze empirical testing affecting working capital of Royal Drugs Limited as well as to know whether adequacy of working capital depends upon the nature of financing current assets or not. The major findings of this study are:

- It has used more long term sources of financing than short term sources and followed conservative working capital policy.
- The major components of current assets in Royal Drugs Limited are cash and bank balance, receivable, inventory. Among these current assets inventory holds largest portion of current assets.
- Company can not efficiency utilize current assets and there is also inefficient management of receivable policy.
- Liquidity position is satisfactory where as return position is not satisfactory due to negative return.

This study has suggested that the company should determine appropriate financing sources. Company should reduce inventory and receivable level for adjusting with sales

and production level. To balance them company should improve marketing and credit policy.

Aryal (2002) has done a research on "A Study on Working Capital Management of Nepal Telecommunication Corporation". The specific objectives of this study are to know how far NTC is able to utilize its current assets properly. This study has calculated various financial ratios by taking five years secondary data of NTC.

From the analytical study, the study has found that

- There is high liquidity in NTC.
- Cash and bank balance holds large amount of current assets
- It has followed conservative financing policy.
- Turnover ratios of company are not satisfied, profitability position is not satisfied but liquidity condition of NTC is favorable.

On the basis of above finding, this study has suggested that the company should optimize its liquidity position, concentrate in the collection period. Again this study has given advice to apply cash management for the optimal cash balance and excess cash can be invested in marketable securities.

Ghimire (2003) has done a research on "Working Capital Management of Selected Manufacturing Company-Listed in Nepal Stock Exchange". The study covers five years historical data from 1997 to 2001 of seven manufacturing companies. This study has focused on the issue of working capital management in relation to selected manufacturing companies. The main objectives of this study are to study working capital practices of listed Nepalese manufacturing companies, to analysis the variable affecting working capital management in Nepalese manufacturing companies and to determine the issue and gaps in working capital management of these companies.

For finding the solution to above problem, the study has employed quantitative and qualitative methods. In quantitative method, this study has used financial tools (ratio analysis, cash conversion cycle, predicting power of ratio of success/failure and DU point) and statistical tool (Karl Pearson's correlation coefficient and simple linear regression). In the qualitative method, this study has used opinion survey method.
From the comparative analysis, this study has found that:

- Out of seven, five companies have followed a moderate working capital policy.
- The overall average inventory, receivable, payable and cash conversion period are high.
- Correlation coefficients between various components of working capital with sales are moderate
- Overall profitability of these selected manufacturing companies is positive, on other hand he has found some issues and gaps i.e. inefficient current assets management, missing working capital policy, high level cost, excessive borrowing, weak liquidity position, high conversion cycle and management inefficiencies.

At last the study has suggested that manufacturing companies should make a quarterly working capital plan with effective working capital management. Further they should improve liquidity position, adopt appropriate financing policy, prepare effective sales plan, develop efficiency of personal and staff, and develop appropriate information system.

Gautam (2004) has conducted the research on "Working Capital Management of Soaltee Crowne Plaza". This study has covered the period of five years (1998/99 -2002/2003). For the analysis of working capital this study has used different financial and statistical tools like ratio analysis, trend analysis, standard deviation and regression analysis. The main objective of this study is to examine working capital practices and profitability position of Soaltee Crowne Plaza. The major findings of this study are as given below:

- The current ratio of Soaltee Crowne Plaza is in very poor condition because the current asset is less than the current liabilities in each year of the study period. Comparing with standard ratio the calculated current ratio become too small. Therefore, the liquidity position of the company is not satisfactory. Quick assets are pure liquid in nature, but the calculated ratio shows the liquid is insufficient to pay its current payable as its ratio is below standard.
- Company is loosing its ability in respect with investment policy because in the proceeding year it has positive return whereas in the later year it has negative return.
- The fluctuation cash turnover implies that the Soaltee Crowne Plaza is inefficient in cash management.
- The proportion of current assets to total assets is nearly consistent. The company has low investment in current assets.
- Company has followed conservative policy of financing. The receivable turnover is more consistent. The utilization of current assets becomes unsatisfactory.

The study has suggested that the company should make the effective plan, which helps for immediate marketability and certainly decrease the problem of overstocking. Management should set proper credit policy and avoid unnecessary increase in the volume of receivable, determine appropriate sources of financing and give proper attention toward the manpower. Hence, to service in present competitive marketing the industry has to improve overall working capital policy.

This study has taken only one hotel (Soaltee Crowne Plaza) out of four listed hotels. There are various aspects of financial management but this study is concerned with only the working capital aspect of related hotel. This study recommend that government should make sound policy towards tourism but without increasing hotel's capacity and making good plan to attract the tourist, the government alone cannot do anything.

Yadav (2006) has conducted the research on "Working Capital Management of Listed in Nepal Stock Exchange". The study has used financial as well as statistical tools to analysis the financial data of 2000 to 2005. The study has also used primary and secondary sources of data. The main objective of this study is to apprise the working capital management of listed hotels and to find out the relationship between the different variables of working capital. The major findings of this study are:

- Yak and Yeti, Oriental and Soaltee Crowne Plaza are suffering from excess of current assets over the current liabilities.
- Yak and Yeti has followed conservative financing policy whereas Soaltee and Oriented have followed aggressive financing policy.
- The relationship between current assets and current liabilities, current assets and net sales, and net working capital, are found negative and receivables and net sales are positive of all selected hotels.
- From the primary information, it has also found that Oriental and Yak and Yeti are not implying any credit standard policy and credit payable policy.
- The liquidity and profitability position of all selected hotels is satisfactory.

This study has suggested that in the view of Oriental and Yak and Yeti, good financing planning is important to make better working capital management system. These three hotels should manage receivable and inventory conversion period by applying suitable credit policy. Lastly, this study mention about operating cost, which must be reduced in proper way so that the hotels can maximize their profitability and shareholder's return.

This study has taken only three hotels out of four hotels listed in Nepal stock exchange. Although this study has used questionnaire method to collect the primary information about related field, which one is not able to collect more information from listed hotels because it is only distributed in only one or two hotels i.e. Yak and Yeti and Oriental. If this study has directly collect primary information from related respondent not from the Human Resources Department then this study would be far better than others.

2.4 Research Gap

All the above studies are conducted with the research title “Working Capital Management”. Some researchers have selected various manufacturing companies for the research and some have concentrated in only one or two companies. As to research gap is concerned, there are many changes taken place in the working capital environment and production process as compared to the last few years. So, fresh study related to working capital management of ULNLtd has been done in this research .During the period of gap, the company has renamed to Uni-Lever Nepal Ltd .from Nepal Lever Limited .The most of the studies has been considered many more objectives which made their study more complicated but in this research report only five objectives are taken into study. Some researcher uses both primary and secondary data but only secondary data are considered in this research. Both financial as well as statistical tools like ratio analysis, turnover, cash conversion cycle, mean, standard deviation, coefficient of correlation and probable error are used in this research. Almost all the ratios have been applied to cover the analytical part and fulfill the objective of this study. It involves more recent data of ULNLtd for five years (2060/061-2064/065).

CHAPTER-III
RESEARCH METHODOLOGY

This chapter describes the methodology employed in this study. Research methodology is a sequential procedures and methods to achieve the objectives of the study. A sound research study needs to follow a proper methodology in order to achieve predetermined objectives. Thus, this chapter deals with research design, population and sample, nature and sources of data and tools for analysis of data and definition of key terms.

3.1 Research Design

This study is based on research questions, and is both the descriptions as well as analytical analysis research. The process of accumulating the facts by identifying different variables, analyzing their behaviors and characteristics by personal interviews, discussion and questionnaire, is included in descriptive method. Besides this the study also consists of analysis of variables like liquidity, profitability, sales and current assets which is known as the analytical analysis.

3.2 Population and Sample

There are 17 listed manufacturing companies in security board but out of them only one is selected for the study. UniLever Nepal Limited, which is of course a multinational company and has been providing quality goods and services as well as creating employment opportunities to Nepalese people. And above that it has also brought sophisticified technology of producing goods and services with it. From this enterprise, data and information are taken only related to working capital and its management has been taken for the research purpose.

3.3 Nature and Sources of Data

This study is based on mainly secondary nature data, which are collected from corporate office of ULNLtd. Supplementary primary data for the research has been collected through discussion with related key officials as well as from annual financial report of the company. The study covers five years secondary data from 2060/061 to 2064/065 of ULNLtd.

3.4 Data Gathering Procedure

Required financial data has been collected from the corporate office of ULNLtd. Data used for the research has been collected through audited annual reports, face to face interview with related officials, published books and journals, bullentins and magazines.

3.5 Data Processing

In order to achieve the objective of this study, all collected data are properly arranged and synthesized, tabulated and calculated in accordingly. In this process, financial statement, other information and data are reviewed, grouped in different tables according to their nature and need of the study.

3.6 Method of Data Analysis

The collected data are analyzed by using various financial tools and statistical tools which are given below.

3.6.1 Financial tools

Financial tools are used to find the financial indicators, which basically represent ratio analysis, which indicates mathematical relationship between two figures that are used for establishing the qualitative relationship between two variables of financial statement for rational decision making on financial viability.

In this study liquidity ratios, profitability ratios, leverage ratio and turnover ratios are used. They are explained below:

3.6.1.1 Liquidity Ratio

It is the most important part for the company. It shows the company to pay its current obligation. The liquidity position of the company is determined on the basis of current ratio and quick ratio.

(i) Current Ratio (CR)

This ratio is computed as dividing current assets by current liabilities.

$$CR=\frac{\text{Current Assets}}{\text{Current liabilities}}$$

The high current ratio indicates good liquidity position of company i.e. it is able to pay its current obligation or bills. Generally, the current ratio of 2:1 is considered to be satisfactory. More ratios indicate the greater amount of working capital and vice-versa.

(ii) Quick Ratio(QR)

This is computed as dividing quick assets by current liabilities.

$$QR=\frac{\text{QuickAssets}}{\text{Current liabilities}}$$

As the quick assets does not include the amount invested in the inventories. It is reliable to measure the company's liquidity. Generally, quick ratio of 1:1 of the company is considered to be sound position.

3.6.1.2 Activity or Turnover Ratio

Activity ratios are employed to evaluate efficiency which the firm manages and utilizes its assets. Turnover ratio indicates the speed of assets which are being converted or turned into sales. Activity ratio indicates the relationship between sales and assets. Activity ratios help to judge the effectiveness of asset utilization. They are as follows.

(i) Inventory Turnover Ratio (ITR)

The inventory turnover ratio shows how rapidity the inventory is turning into receivable through sales. It means the ratio shows the efficiency of the business concern in an inventory management. Inventory turnover ratio equals cost of goods sold or sales divided by average inventory or closing inventory.

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

$$\text{Or, } = \frac{\text{Sales}}{\text{Closing inventory}}$$

This ratio shows the number of times inventory is replaced during the year. Higher the inventory turnover indicates the good inventory management and lower turnover suggests the management should manage its inventory properly.

(ii) Debtor (Receivable) Turnover Ratio (DTR)

DTR shows the relationship between sales and account receivable of the enterprises indicates the velocity of debt of collection of the firm. DTR is a test of liquidity position and collecting efficiency of a firm.

$$\text{DTR} = \frac{\text{Sales}}{\text{Debtors}}$$

(iii) Current Asset Turnover Ratio (CATR)

CATR indicates the number of times the CA is turned over during the year. The ratio shows the requirement of working capital for one rupee of sales. It analyses how firm efficiency can utilize its CA.

$$\text{CART} = \frac{\text{Sales}}{\text{Current Assets}}$$

As the CATR increase, it is utilization of CA. If the ratio is low, a greater volume of working capital is there. Low ratio indicates greater working capital and high ratio indicates lower working capital.

(iv) Net Working Capital Turnover (NWCT)

NWCT refers to the ratio between sales and NWC. NWC is the difference between TCA and TCL.

$$\text{NWCT} = \frac{\text{Sales}}{\text{Net Working Capital}}$$

More ratios show the more utilization of net working capital and less ratio vice-verse.

(v) Cash and Bank Turnover Ratio (CBBTR)

CBBTR measures how rapidly cash can convert in to sales of the company. It shows the effectives of management in case of application of each in ordinary course of business.

$$\text{CBBTR} = \frac{\text{Sales}}{\text{Cash and Bank Balance}}$$

The higher ratio indicates cash in rapidly converted into sales and efficient cash management. Low ratio indicates slow, week and in efficient cash management.

3.6.1.3 Profitability Ratio

The main objective of each and every business concern is to earn maximum profit. The position of the profitability of the company is analyzed with the help of this ratio. The profitability ratio is used to measures the operating performance of the company.

(i) Gross Profit Margin (GPM)

Gross profit margin ratio indicates the percentage of profit after cost of production. This ratio is measure of productive efficiency. A high gross profit margin reflects the higher cost of production. Gross margin ratio is given by:

$$\text{GPM} = \frac{\text{Gross Profit}}{\text{Sales}} \times 100\%$$

$$\text{Or, } = \frac{\text{(Sales –Cost of Goods Sold)}}{\text{Sales}} \times 100\%$$

(ii) Net Profit Margin (NPM)

Net profit margin is estimated after deducting all operating expenses and income tax from gross profit. It shows the percentage of net profit out of total sales. This ratio shows as overall measurement of the company's ability to earn net profit. It computed by dividing net profit by sales and given by:

$$\text{NPM} = \frac{\text{Net Profit After Tax}}{\text{Sales}} \times 100\%$$

(iii) Operating Expenses Ratio (OER)

This ratio is calculated to ascertain the relationship between operating expenses and volume of sales. The higher percentage of operating expenses ratio shows higher operating cost and vice-versa. It is given by:

$$\text{OER} = \frac{\text{Cost of goods sold + operating expenses}}{\text{Sales}} \times 100\%$$

$$\text{Or, } = \frac{\text{Expenses (Administrative+Selling)}}{\text{Net sales}} \times 100\%$$

(iv) Return on Working capital (RWC)

It measures the profitability position with respect to current asset. Working capital and current assets are synonyms.

$$RWC = \frac{\text{Net Profit After Tax}}{\text{Current asset}} \times 100\%$$

$$\text{Or, } = \frac{\text{(Net Profit After Tax + Interest)}}{\text{Current asset}} \times 100\%$$

Higher the ratio higher the utilization of current assets to earn profit and vice –versa.

(v) Return on Total Assets (RTA)

RTA can be expressed as the relationship between net profit after taxes plus interest and total assets. RTA measures the profitability of total fund or investment of the firm. But RTA is not sufficient for the analysis of profitability of different source of fund for financing the total assets.

$$RTA = \frac{\text{Net Profit After Tax}}{\text{Total assets}} \times 100\%$$

$$\text{Or, } \frac{\text{(Net Profit After Tax +Interest)}}{\text{Total assets}} \times 100\%$$

3.6.1.4 Structure of Working Capital Ratio

The analysis of structure of working capital enables management of an enterprise to know as to how the working capital is being administered. It also furnishes valuable information to short- term creditors and other regarding the strength of working capital of the undertaking.

The structure of working capital can be analyzed by measuring the change of proportion of cash, receivable, inventory and other to the total current assets in course of time.

The structure of working capital has been studies by analyzing the following ratios.

(a)Working Capital Structure on Total Assets

It shows the portion of working capital on total assets. It can be also classified under as:

(i) Current Assets to Total Assets (CATA)

The ratio of current assets to total assets indicates what percentages of the company's total assets are invested in the form of current assets. It is calculated as:

$$\text{CATA} = \frac{\text{Current assets}}{\text{Total Assets}} \times 100\%$$

As the ratio increase, the risk and profitability of the company would decrease. The low ratio indicates the small amount of working capital.

(ii) Current Assets to Fixed Assets Ratio (CAFA)

This ratio shows the relationship between the CA and FA. It can be calculated as:

$$\text{CAFA} = \frac{\text{Current assets}}{\text{Fixed Assets}} \times 100\%$$

If the ratio is large, it indicates higher the working capital and sound liquidity position.

(iii) Cash and Bank Balance to Total Assets (CBTA)

It measures what portion of cash and bank balance on total assets.

$$\text{CBCA} = \frac{\text{Cash and Bank Balance}}{\text{Total assets}} \times 100\%$$

The small ratio indicates the small size of cash and higher ratio indicates the high size of cash and bank balance on total assets.

(iv) Inventory to Total Assets (ITA)

It measures the ratio of inventory on total assets. It can be calculate as:

$$\text{ITR} = \frac{\text{Inventory}}{\text{Total Assets}} \times 100\%$$

Higher the ratio, higher the inventory and vice versa.

(v) Receivable to Total Assets (RTA)

It measures the ratio of receivable on total assets.

$$\text{RTA} = \frac{\text{Receivable}}{\text{Total Assets}} \times 100\%$$

Higher the ratio, higher level of receivable on total assets.

(vi) Pre-paid Advance Loans and Deposit to Total Assets Ratio(PAL &D to TA)

It means the level of investment on pre-paid, advance, loan and deposit from the total assets.

PAL &D to TA =

High ratio indicates high level of PAL &D to TA and vice versa.

(b) Working Capital Component Structure on Total Current Assets

The aim of this ratio is to find out the portion of every working capital component on gross working capital. Which are classified as under:

(i) Inventory to Total Current Assets (ITCA)

It measures the level of inventory on total current assets.

$$\text{ITCA} = \frac{\text{Inventory}}{\text{Total Current Assets}} \times 100\%$$

Higher ratio indicates the high level of inventory on total current assets.

(ii) Receivable to Total Current Assets Ratio (RTCA)

It is the level of receivable on total current assets.

$$\text{RTCA} = \frac{\text{Receivable}}{\text{Total Current Assets}} \times 100\%$$

Higher the RTCA ratio high level of sale on credit portion and vice-versa.

(iii) Cash and Bank Balance to Total Current Assets Ratio (CBTCA)

It measures the relationship between cash and total current assets composition.

$$\text{CBTCA} = \frac{\text{Cash and Bank Balance}}{\text{Total Current Assets}} \times 100\%$$

(iv) Pre-paid Advance Loans and Deposit to Total Current Assets (PAL &D to TCA)

It is the level of investment on pre-paid, advance, loan and deposit from the total current assets.

PAL &D to TCA =

High ratio indicates the investment of current assets on unproductive sector and vice-versa.

3.6.1.5 Working Capital Cash Flow Cycle

It means the cash inflow and outflow periods of a company. In the business enterprises cash inflow and outflow are resistive process, which determines the available credit period. It can be calculated in the following aspects:

(i) Inventory Conversion Period (ICP)
(ii) Receivable Conversion Period (RCP)
(iii) Payable Deferral Period (PDP)
(iv) Cash Conversion Cycle (CCC)

(i) Inventory Conversion Cycle(ICP)

It defined as the length of time required to convert raw material into finished goods and then sell these goods. This period indicates the efficiency of the firm since it includes period from purchase of raw material to selling its product during a year.

$$\text{ICP} = \frac{360\text{days}}{\text{Inventory Turnover}}$$

$$\text{Or, } = \frac{\text{Average Inventory}}{\text{Cost of Goods sold}} \times 360\text{days}$$

Lesser the ICP, better the inventory management means quick conversion inventory to sales.

(ii) Receivable Conversion Period (RCP)

RCP is also known as average collection period. (ACP) or days sales outstanding (DSO). It shows the length of time to convert account receivable to cash, means that the period between credit sales and receipt of cash of these sales.

$$\text{RCP} = \frac{360\text{days}}{\text{Receivable Turnover}}$$

$$\text{Receivable Turnover} = \frac{\text{Sales}}{\text{Debtor}}$$

$$\text{Or, RCP} = \frac{\text{Debtors(Receivable)}}{\text{Sales}}$$

(iii) Payables Deferral Period (PDP)

It is also known as payable conversion period. It is defined as the average length of time between the purchase of raw materials and labour and payment of cash for them.

$$\text{PDP} = \frac{\text{Account Payable}}{\text{Cost of Goods Sold}} \times 360\text{days}$$

$$\text{Or, PDP} = \frac{\text{Account Payable}}{\text{Purchase}} \times 360 \text{ days}$$

Higher PDP indicates the slow payment to creditors and vice-versa.

(iv) Cash Conversion Cycle (CCC)

It is the length of time between paying for purchases and receiving cash from the sales of finished goods. The cash conversion cycle can be calculated as follows.

CCC=Operation cycle period (OCP) − Payable Deferral Period (PDP)

Or, CCC= Inventory Conversion Period (ICP) + Receivable Collection period (RCP) −Payable Deferral Period (PDB)

Where OCP=ICP+RCP

3.6.2 Statistical Tools

The help of statistical tools is essential to measure the relationship of two or more variables. In this study, the following statistical tools are used.

3.6.2.1 Standard Deviation

"Standard deviation is the most popular and most useful measures of dispersion and gives uniform, correct and stable result" (Joshi; 2001). The chief characteristic of standard deviation is based on mean. Mean doesn't give the clear picture about two distributions with same average because scattered ness may differ in those distributions. Therefore, a standard deviation is superior to the mean deviation, quartile deviation and range because it is used for further mathematical treatment. It is the positive square root of average sum of squares of deviation of observation from the arithmetic mean of distribution. Different formulae can be used to calculated standard deviation, among them following formulae has been used here.

$$\exists = \sqrt{\frac{\phi(x- \overline{X})^2}{N}}$$

|

3.6.2.2 Co- efficient of Variation (CV)

Standard deviation is the absolute measure of dispersion. The relative measure of dispersion based on the standard deviation is known as the co-efficient of standard deviation. "The co-efficient of dispersion based on standard deviation multiplied by 100 is known as the co-efficient of variation". (Bajracharya; 2061).

$$C.V. = \frac{\exists}{\overline{X}} \times 100$$

It is used for comparing the homogeneity and the uniformity of two or more distribution. The less CV, more the uniformity and consistency etc will be and the more the CV is the less the uniformity, consistency etc. will be.

3.6.2.3 Correlation Coefficient (r)

Correlation coefficient is defined as the association between the dependent variable and independent variable. It is a method of determining the relationship between these two variables. If the two variables are so related that change in the value of independent variable causes the change in the value of dependent variable, then it is said to have correlation coefficient (Shrestha and Silwal; 2059). It can be calculated by using the method of Karl Pearson's Correlation Coefficient, which is a widely used mathematical method of correlation coefficient between two variables.

$$r = \frac{N\phi\, dx.dy - \phi dx.\, \phi dy}{\sqrt{N\phi dx^2 - \phi(dx)^2}\ \sqrt{N\phi dy^2 - \phi(dy)^2}}$$

Interpretation

1. If r=0, there is no relationship between the variable.
2. If r<0, there is negative relationship between the variable.
3. If r>0, there is positive relationship between the variable.
4. If r=+1, the relationship is perfectly positive.
5. If r=-1, the relationship is perfectly negative.

3.6.2.4 Probable Error (PE)

The probable error of the correlation co-efficient is applicable for the measurement of reliability of the computed value of the correlation co-efficient 'r'. it is also denote by P.E. it is calculated by the following formula.

$$\text{Probable Error (PE)} = \frac{0.6745\ (1-r^2)}{\sqrt{N}}$$

Where,

r= Correlation Co-efficient.

N= number of pairs of observation.

P.E. is used to interpret whether the calculated value of r is significant or not.

(i) If r<P.E., it is insignificant, i.e. there is no evidence of correlation.

(iii) If r> 6P.E., it is significant.

(iv) If P.E. <r<6P.E. nothing can concluded.

3.7 Definition of Key Operational Terms

To avoid ambiguity confusion and misunderstanding, the operational term use in this study have been defined as follows:

(i) Current Assets (CA)

It includes those assets which can convert into cash within an accounting year. They are inventories, debtors, cash and bank balance and prepaid, advance, loan and deposits.

(ii) Current Liabilities (CL)

It includes all the payments that have to be made by the company within an accounting period. It includes sundry creditors, provision for taxation, unclaimed dividend, and provision for bonus, housing, and income tax.

(iii) Working Capital (WC)

The term working capital here refers to the gross working capital. It means that total volume of current asset.

(iv) Net Working Capital (NWC)

Net working capital refers to the difference in between the current assets and current liabilities.

(v) Fixed Assets (FA)

It consists of the assets of the company like land and building, plant and machinery, furniture and fixture, motor vehicles and computer.

(vi) Total Assets (TA)

It includes the total current assets, net fixed assets and investments.

(vii) Cash and Bank Balance (C&BB)

It includes cash in hand and cash at bank.

(viii) Receivable (Debtors)

It includes the trade debtors and other receivable.

(ix) Inventories

It includes the raw materials at cost, packing materials, store, spares and parts, work in progress at direct standard cost, finished goods at direct standard cost etc.

(x) Prepaid Expenses and Advance

It includes the advance amount to the member of board of director and staffs, advance prepaid expenses and letter of credit (L/C) amount.

CHAPTER-IV

DATA PRESENTATION AND ANALYSIS

To achieve the objective set in this study, data are presented and analyzed in this chapter. On the whole, this chapter is related to quantitative analysis of various ratios. Some quality-oriented analysis has also been done in order to make the result realistic and complete to the possible extent. This chapter includes working capital structure, utilization of working capital, liquidity position working capital, cash conversion cycle, profitability position of working capital components and working capital policy.

4.1Structure of Working Capital

The working capital composition is affected by the nature of business and attitude of the management toward risk. There are various types of current assets that have been used in business organization. Some of them have held high amount in current assets and some of them have occupied low amount, which affects the profitability and liquidity positions. The major components of working capital of ULNLtd are inventory, debtors, cash and bank balance, loan, advance and deposit. In this study section, analysis of working capital compositions in relation to current assets, fixed assets and total assets as ratios have been made.

4.1.1 Structure of Total Current Assets (CA) on Total Assets (TA) and Fixed Assets (FA)

This structure expresses the gross working capital portion that is held in total assets and similarly in fixed assets, which shows the how many percentage of total assets and fixed assets has been invested on gross working capital. Following table presented the working capital structure on total assets and fixed assets of ULNLtd.

Table No. 4.1

Uni-Lever Nepal Limited

Structure of Current Assets on Total Assets and Fixed Assets

(RS in Million)

F/Y	CA	TA	Ratio (%)	CA	FA	Ratio (%)
2060/061	589.89	784.88	75.16	589.89	146.16	403.59
2061/062	724.24	939.71	77.07	724.24	135.71	533.67
2062/063	891.41	1098.94	81.12	891.41	127.77	697.67
2063/064	557.96	967.15	57.69	557.96	145.78	382.74
2064/065	622.67	985.25	63.20	622.67	148.93	418.10
Average			70.85			487.15
C.V			12.60			24.14

Source: Annual Reports of Uni-Lever Limited, Fiscal Years 2060/061-2064/065

Current Assets to Total Assets: The ratio represents the proportion current assets investment to total assets investment of ULNLtd. During the study period percentage of current assets to total assets of ULNLtd is in fluctuating trend with on average of 70.85% .In the F/Y 2063/064, the volume of current assets on its total assets are Rs 557.96 million and it is 57.69% of its total assets It is least percentage of current assets on total assets during the study period. In the F/Y 2062/063, current assets are Rs 891.41 million and it is 81.12%, which is higher percentage proportion over the period of time. The C.V is 12.60% of ULNLtd.This means, the ratio of ULNLtd has less variation because of minimum co-efficient of variation.

Current Assets to Fixed Assets: Current assets to fixed assets ratio of ULNLtd is in increasing trend up to F/Y 062/063.The lowest ratio is 382.74% of its fixed assets in F/Y 2063/064.and it has maximum of 697.67% Ratio of its fixed assets in F/Y 2062/063.Because of high fluctuation, the average percentage of current assets to fixed

assets is 487.15% .The C.V is 24.14% of ULNltd. That means, the ratio of current assets to fixed assets is more than that in case of current assets to total assets.

4.1.2 Structure of Net working capital on Total Assets (TA) and Fixed Assets (FA)

Net working capital total assets ratio, measures the net working capital portion of total assets and similarly net working capital to fixed assets ratio measures how much net working capital has been invested with respected to fixed assets.Net working capital is different between current assets and Current liabilities. Following table presents the structure of net working capital on total assets and fixed assets.

Table No. 4.2

Uni-Lever Nepal Limited

Structure of Net Working Capital on Total Assets and Fixed Assets

(RS in Million)

F/Y	NWC	TA	Ratio (%)	NWC	FA	Ratio (%)
2060/061	163.43	784.88	20.82	163.43	146.16	111.82
2061/062	180.54	939.71	19.21	180.54	135.71	133.03
2062/063	9.39	1098.94	0.85	9.39	127.77	7.35
2063/064	(184.27)	967.15	(19.05)	(184.27)	145.78	(126.40)
2064/065	(127.80)	985.25	(12.97)	(127.80)	148.93	(85.81)
Average			1.77			8.00
C.V			917.50			129.03

Source: Annual Reports of Uni-Lever Limited, Fiscal Years 2060/061-2064/065

Net Working Capital to Total Assets: The average portion of net working capital on total assets of company is 1.77% .In F/Y 2063/064,and 2064/065, the proportion of net working capital to total assets is negative which indicates that ,the current liabilities of

these two years is more than the current assets .The higher portions or ratio is 20.82% in F/Y 2060/061.The C.V for net working capital to total assets is 917.50% implies more variation because of maximum of C.V in comparison to ratio of net working capital to current assets .

Net Working Capital to Fixed Assets: The average portion of net working capital on fixed assets of company is 8%. Similarly on total assets, in F/Y 2063/064 and 2064/065, the ratio of net working capital to fixed assets is negative because due to more current liabilities than the current assets. The higher ratio is 133.03% in F/Y 2061/062 .The C.V for net working capital to total assets is 129.03% which implies more use of current liabilities than the current assets and is more variation due to maximum C.V.

4.1.3 Structure of Inventory on Total Assets and Current Assets

Inventory is one of the major components to total assets and current assets respectively. Inventory structure of ULNLtd. is presented in the table below.

Table No. 4.3

Uni-Lever Nepal Limited

Structure of Inventory (I) On Total Assets and Current Assets

(RS in Million)

F/Y	I	TA	Ratio (%)	I	CA	Ratio (%)
2060/061	126.11	784.88	16.07	126.11	589.89	21.38
2061/062	184.22	939.71	19.60	184.22	724.24	25.44
2062/063	229.76	1098.94	20.91	229.76	891.41	25.77
2063/064	256.17	967.15	26.49	256.17	557.96	45.91
2064/065	304.33	985.25	30.89	304.33	622.67	48.88
Average			22.79			33.48
C.V			23.08			34.37

Source: Annual Reports of Uni-Lever Limited, Fiscal Years 2060/061-2064/065

Inventory to Total Assets: The average portion of inventories on Total assets of ULNLtd is 22.79% with increase change rate 2.59% .Inventory to total assets ratio is fluctuated due to fluctuation to sales. The largest portion of inventory to total assets is 30.89% with positive changing ratio 4.40 in F/Y 2064/065.In the F/Y 2060/061, 16.07% is the smallest portion on total assets of ULNLtd. The C.V for inventories to total assets is 10.80%, which depicts less variation than inventory to current assets.

Inventory to Current Assets: The average portion of inventories on current assets of ULNltd has 33.48% with increasing rate 6.88% .In the F/Y 2064/065 there is 48.88 proportion of inventories on current assets, which is the largest portion during the study period.20.14% is the highest increasing rate in F/Y 2063/064 during the study period .The C.V for inventories to current assets is 34.37 % which depicts more variation than inventory to total assets.

4.1.4 Structure of Debtors on Total Assets and Current Assets.

This ratio is related to receivable management or sales policy. Debtors to total assets and debtors to current assets ratio measure the portion of debtor on total assets and current assets .This ratios show the arrangement of debtors on Total assets and current assets .Following table presents the debtors on total assets and current assets of ULNLtd .company

Table No. 4.4

Uni-Lever Nepal Limited

Structure of Debtors on Total Assets and Current Assets

(RS in Million)

F/Y	Debtors	TA	Ratio (%)	Debtors	CA	Ratio(%)
2060/061	64.78	784.88	8.25	64.78	589.89	10.98
2061/062	97.06	939.71	10.33	97.06	724.24	13.40
2062/063	157.72	1098.94	14.35	157.72	891.41	17.69
2063/064	138.32	967.15	14.30	138.32	557.96	24.79
2064/065	136.45	985.25	13.85	136.45	622.67	21.91
Average			12.22			17.75
C.V			20.29			28.90

Source: Annual Reports of Uni-Lever Limited, Fiscal Years 2060/061-2064/065

Debtors to Total Assets: The average debtors to total assets ration of company is 12.22% during the study period. In the F/Y 2060/061 and 2061/062, they are below the average ratio and in the rest remaining three fiscal years, they are higher than average debtors on total assets ratio. The highest ratio is 14.35% in the F/Y 2062/063.The C.V for debtors to total assets is 20.29% which depicts less variation than debtor to current assets.

Debtors to Current Assets: The average portion of debtors on current assets of company is 17.75% with 2.19% increasing rate. In the F/Y 064/065, the changing rate is decreasing by 2.88% from that of previous fiscal years .The highest ratio is 24.79% in F/Y 2063/064 .The C.V for debtor to current assets is 28.90% which depicts more variation than debtors to total assets.

4.1.5 Structure of Cash and Bank Balance (CBB) on Total Assets (TA) and Current Assets (CA)

Structure of CBB on TA and CBB on CA ratio is the portion of CBB on TA and CA of enterprise has been shown in the following table.

Table No. 4.5

Uni-Lever Nepal Limited

Structure of Cash & Bank Balance on Total Assets and Current Assets

(RS in Million)

F/Y	CBB	TA	Ratio (%)	CBB	CA	Ratio (%)
2060/061	317.40	784.88	40.44	317.40	589.89	53.81
2061/062	391.53	939.71	41.66	391.53	724.24	54.06
2062/063	443.31	1098.94	40.34	443.31	891.41	49.73
2063/064	59.02	967.15	6.10	59.02	557.96	10.58
2064/065	101.60	985.25	10.31	101.60	622.67	16.32
Average			27.77			36.90
C.V			57.76			52.28

Source: Annual Reports of Uni-Lever Limited, Fiscal Years 2060/061-2064/065

Cash bank and Balance to Total Assets: The average cash and bank balance portion on total assets of ULNltd is 27.77% .There is only two ratios above the average ratio. Out of them 41.66 is the highest ratio or portion during the study period. In the F/Y 2063/064.,34.24% is the highest decreasing rate during the period .The C.V for cash and bank balance to total assets ratios is 57.76% which depicts highest variation due to fluctuation trends on ratios of cash and bank balance to total assets.

Cash bank and Balance to Current Assets: The smallest portion cash and bank balance of on current assets is 10.58% in F/Y 2063/064.Similarly high portion of cash and portion of

54.06% in F/Y 2061/062 .The average ratio of current assets to cash and bank balance of ULNltd is 36.90% .The C.V for cash and bank balance on current assets is 52.28% ,which depicts highest variation due to fluctuation trend on cash and bank balance to current assets.

4.1.6 Structure of Loan, Advance and Deposit (LAD) and Total assets (TA) and Current assets (CA)

The ratio of loan, advance and deposit to total assets indicates the portion of current assets which occupies the total assets and similarly loan, advance and deposit to current assets ratio indicates that portion of current assets component which occupies on Total Current Assets .Following table presents the loan, advance and deposit ratio of total assets and current assets.

Table No. 4.6

Uni-Lever Nepal Limited

Structure of Loan, Advance & Deposit on Total Assets and Current Assets

(RS in Million)

F/Y	LAD	TA	Ratio (%)	LAD	CA	Ratio (%)
2060/061	81.60	784.88	10.40	81.60	589.89	13.83
2061/062	51.43	939.71	5.47	51.43	724.24	7.10
2062/063	60.62	1098.94	5.52	60.62	891.41	6.80
2063/064	104.45	967.15	10.80	104.45	557.96	18.72
2064/065	80.29	985.25	8.15	80.29	622.67	12.89
Average			8.07			11.87
C.V			28.38			37.74

Source: Annual Reports of Uni-Lever Limited, Fiscal Years 2060/061-2064/065

Loans, Advance and Deposits to Total Assets: The average loan, advance and deposit portion on total assets of ULNltd is 8.07%, which is in decreasing change rate 0.45% .In the F/Y2063/064, the volume of loan, advance and deposit is Rs 104.45 million and it is

high percentage of loan, advance and deposit on total assets during the study period .In the F/Y 2061/062 loan, advance and deposit is Rs 51.43 million and it is 5.47 % which is least percentage of loan, advance and deposit on total assets over the period of time .The C.V for loan, advance and deposit to total assets is 28.38 % ,which depicts variation due to fluctuations trend of loan, advance and deposit to total assets ratios.

Loans, Advance and Deposits to Current Assets: The average loan, advance and deposit to current assets ratio of ULNltd is 11.87% with decreasing change ratio 0.24% .The highest and lowest ratio are 18.72% and 6.80% in F/Y 2063/064 and 062/063 ,respectively .At same years ,there is the largest increasing ratio from just previous fiscal years by 11.92% .The C.V for loan, advance and deposit to current assets is 37.74% ,which depicts variation due to fluctuation trend of loan, advance and deposit on current assets ratios.

4.1.7 Analysis of the Average Structure of WC Components on TA and CA.

This analysis represents the average from during the study period .The average structure of WC and its components are presented in the following table.

Table No. 4.7

Uni-Lever Nepal Limited

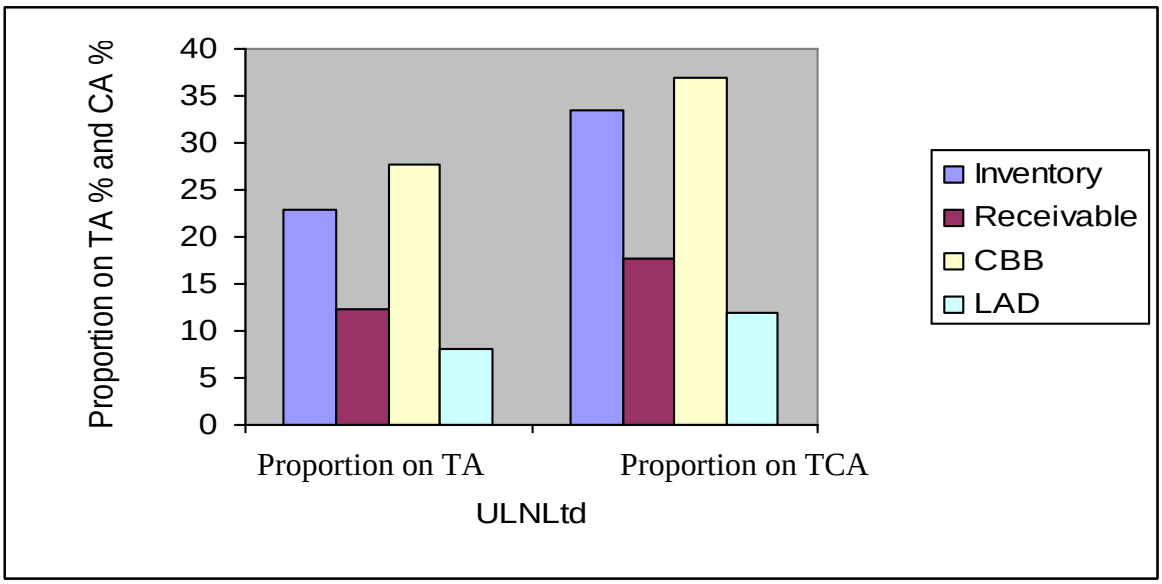
Average Proportion of Components on Total Assets and Current Assets

Component of WC(Types of WC)	Proportional TA(%)	Proportional TCA(%)
Inventory	22.79	33.48
Receivable	12.22	17.75
Cash and Bank Balance	27.77	36.90
Loan, advance and Deposit	8.07	11.87
Total (%)	70.85	100

The above table represents the working capital structure as a whole in average form during the study period with all the components .The company has inventory ,debtors , cash and bank balance and loan, advance and deposit ratios are 22.79%,12.22%,27.77% &8.07% of TA respectively ,in aggregate 70.85% of Total Assets .Similarly, the above table also shows the structure of WC and the various proportions of the components on total current assets .

Figure No.4.1

Average Proportion of Components on TA and TCA.



As above, mentioned figure shows a great part has been occupied by cash and bank balance on both proportions on total assets and proportion on current assets. After that a great part has been occupied by inventories on proportion on Total Assets and Current Assets .Debtors and LAD occupied less area as proportion on Total Assets and Current Assets.

4.2 Utilization of Working Capital

Only investing in working capital is not sufficient to get good results and return, it should efficiently be utilized .The behavior of WC utilization and improvement can be analyzed with the help of activity or turnover ratios. This reflects the speed and rapidity with which assets are concerted into sales there by resulting in the efficiency of the enterprises. Though there is no standard or ideal measurement, generally a great turnover of regarded as efficient utilization of the assets .For this purpose, the advantage turnover of the factory itself may provide a standard measurement for comparison with the means of measurement, and this section examines the turnover position of the ULNLtd.

4.2.1 Current Assets Turnover Ratio (CATR)

Every business firm's main objective is to sell of products and services .So, the sale is most important activity. The survival and growth of company depends on the sales of the product .The company should make their sales policy as per the resources availability and market demand. The sales policy directly affects the production policy, i.e. the requirement of total assets and working capital by the company to run it as per plan. Increase in sales certainly cause increase in production, which requires more inputs. To keep the stock of material, there should be adequate amount of working capital. The amount of working capital is also affected by sales policy .If the credit sales are increased more working capital will be required to meet the daily requirement .In other hand, if tight credit sales policy is applied the amount of working capital to replace the amount held by credit sales will be decreased.The ultimate effect will be decrease in working capital need.

The Table 4.8 represents the current assets or gross working capital turnover during the study period in ULNLtd.

Table No. 4.8

Uni-Lever Nepal Limited

Current Assets Turnover Ratio (CATR)

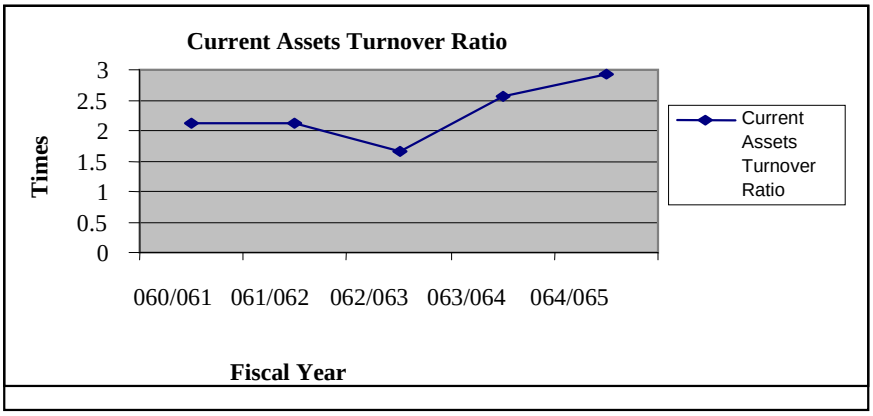
(RS in Million)

F/Y	Sales	C. A	Ratio (Times)	Change
2060/061	1244.73	589.89	2.11	---
2061/062	1524.90	724.24	2.11	---
2062/063	1481.56	891.41	1.66	-0.45
2063/064	1434.94	557.96	2.57	0.91
2064/065	1818.53	622.67	2.92	0.32
Average			2.27	
C.V			18.94%	

Source: Annual Reports of Uni-Lever Limited, Fiscal Years 2060/061-2064/065

The above table shows the current assets turnover ratio in times. Current assets turnover ratios for the F/Y 2060/061, 2061/062, 2062/063, 2063/064 and 2064/065 are 2.11,2.11,1.66,2.57,and 2.92 times respectively .It is in increasing trend except in F/Y 2062/063.In fiscal year 2062/063 current assets turnover ratio is reduced by 0.45 times with the comparison of last fiscal years .In other F/Y current assets turnover ratio is increased with the comparisons of respective last years .The average of the study period the current assets turnover position of the company is 2.27 times. The C.V for sales on current assets is 18.97%, which depicts variation due to fluctuation trend in sales to CA ratio.

Figure No. 4.2



4.2.2 Inventory Turnover Ratio (ITR)

It has already been stated that the working capital, production and sales are correlated in general cases. The production should be increased to meet the high level of target sales. To produce more, more raw materials will be required .The stock level of production is here to fulfill the requirement of the company .It has to increase its working capital .In this way the inventory is affected by sales volume. The proportion of inventories to sales has been presented below.

Table No. 4.9

Uni-Lever Nepal Limited

Inventory Turnover Ratio (ITR)

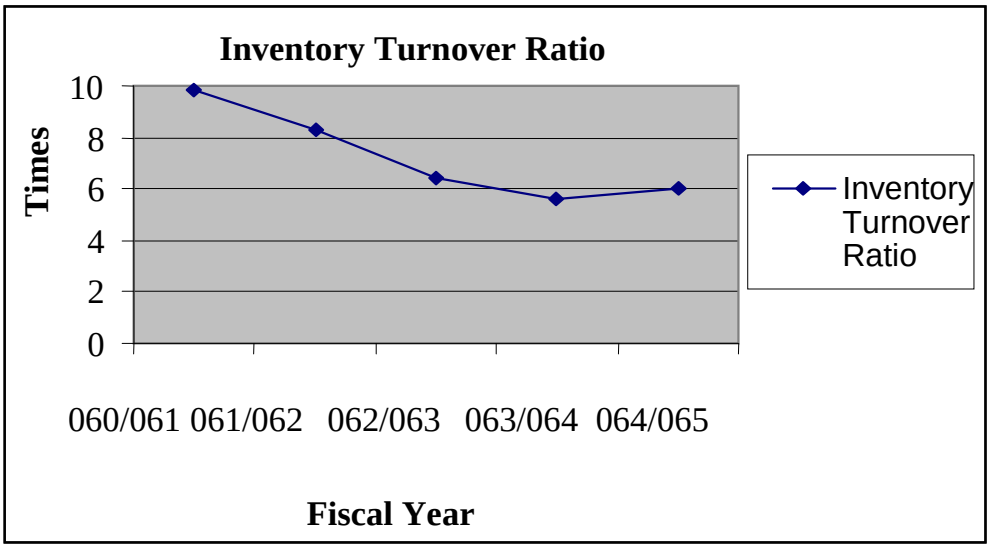
(RS in Million)

F/Y	Sales	Inventory	Ratio (Times)	Change
2060/061	1244.73	126.11	9.87	---
2061/062	1524.90	184.22	8.28	-1.59
2062/063	1481.56	229.76	6.45	-1.83
2063/064	1434.94	256.17	5.60	-0.85
2064/065	1818.53	304.33	5.98	0.38
Average			7.24	
C.V			22.24	

Source: Annual Reports of Uni-Lever Limited, Fiscal Years 2060/061-2064/065

The above table shows the ratio in times inventory replaced during the year period. The ratio of average inventory turnover during the study period has been 7.24 times. The inventory turnover period in F/Y 2060/061, 2061/062, 2062/063, 2063/064, 2064/065 are 9.87, 8.28, 6.45, 5.60 and 5.98 times. It fluctuates from 5.60 to 9.87 times. It has decreased in three F/Y 2061/062, 2062/063, 2063/064 by 1.59, 1.83 and 0.83 times. It has increased by 0.35 times in F/Y2064/065.The company has lowest and highest inventory turnover position in 5.60 times and 9.87 times in F/Y 2063/064 and 2060/061 respectively .The company's sales is in increasing pattern except in F/Y 2062/063 and 2063/064 but inventory holding is in increasing trend for all fiscal years .The C.V of inventory turnover ration is 22.24%, which indicates less variation in figures of inventory turnover ratio in the given period.

Figure: 4.3



4.2.3 Receivable Turnover Ratio (RTR)

Receivable is one of the components of working capital in order to increase the business an activity, the company has to increase the sales volume. The sales volume can be increased by given products in credit to customers the level of receivable goes up, because generally receivable in credited by credit sales. The credit sales policy is applied

to increase the sales level. Hence the increase is receivables should increase the sales volume. The proportion of receivable to sales presented here under.

Table No. 4.10

Uni-Lever Nepal Limited

Receivables Turnover Ratio (RTR)

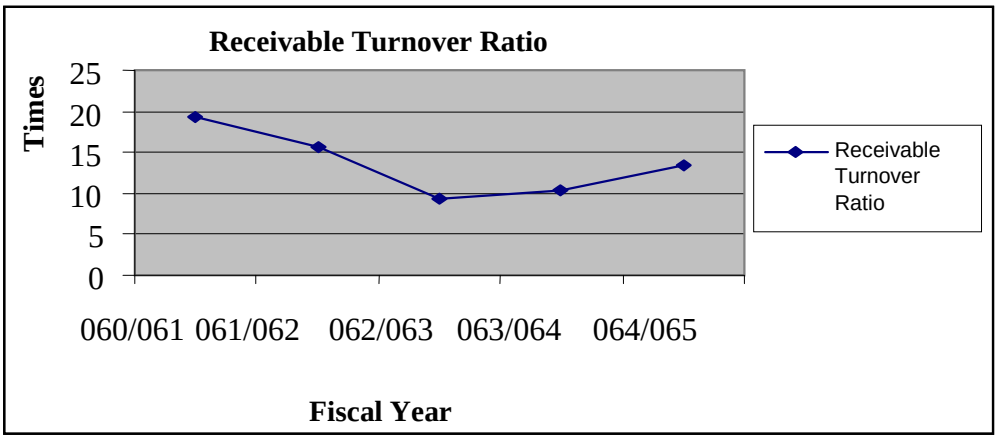
(RS in Million)

F/Y	Sales	Receivables	Ratio (Times)	Change
2060/061	1244.73	64.78	19.21	---
2061/062	1524.90	97.06	15.71	-3.50
2062/063	1481.56	157.72	9.39	-6.32
2063/064	1434.94	138.32	10.37	0.98
2064/065	1818.53	136.45	13.33	2.96
Average			13.60	
C.V			26.32	

Source: Annual Reports of Uni-Lever Limited, Fiscal Years 2060/061-2064/065

The above presented table shows the receivable turnover times in the five year study period. Receivable turnover ratio in five F/Y 2060/061, 2061/062, 2062/063, 2063/064 and 2064/065 are 19.21, 15.71, 9.39, 10.37 and 13.33 times respectively. The highest receivable turnover in the study period is 19.21 times in the F/Y 2060/061. In the F/Y 2062/063 has the lowest receivable turnover during the study period. The average turnover ratio is 13.60%. The fluctuation ratio is some times very high and but sometimes it is very low. It shows the Receivable collection policy of ULNLtd. is changing year by year. That means company follows some times hard collection policy and sometimes liberal collection policy.

FigureNo.4.4



4.2.4 Cash and Bank Balance Turnover Ratio (CBBTR)

It is one of the main parts of current assets which have greatest value to meet the current obligations occurred in business. It should be just adequate to run the business and excess cash no meaning as it earns nothing. So, the company always seeks the risk return trade off to maintain the just adequate cash and bank balance. The following table shows the cash and bank balance turnover ratio of the ULNLtd during the study period.

Table No. 4.11

Uni-Lever Nepal Limited

Cash and Bank Balance Turnover Ratio (CBBTR)

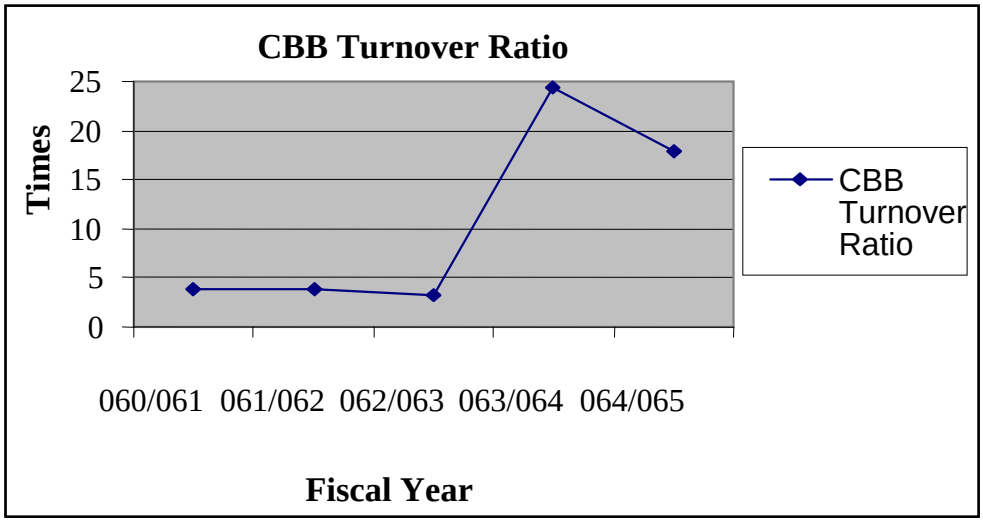
(RS in Million)

F/Y	Sales	CBB	Ratio (Times)	Change
2060/061	1244.73	317.40	3.92	---
2061/062	1524.90	391.53	3.89	-0.03
2062/063	1481.56	443.31	3.34	-0.55
2063/064	1434.94	59.02	24.31	20.97
2064/065	1818.53	101.60	17.90	6.41
Average			10.67	
C.V			82.38	

Source: Annual Reports of Uni-Lever Limited, Fiscal Years 2060/061-2064/065

The above table shows the cash and bank balance turnover ratio in times of ULNLtd. The ratio indicates that a rupee invested in cash and bank balance generate in times. Cash and bank balance turnover ratio for the F/Y 2060/061, 2061/062, 2062/063, 2063/064 and 2064/065 are 3.92, 3.89, 3.34, 24.31 and 17.90 times respectively. It fluctuates from 3.34 times to 24.31 times. The highest times of cash and bank balance turnover ratio is 24.31 times in F/Y 2063/064 and lowest cash and bank balance turnover ratio is 3.34 times in F/Y 2062/063.In F/Y 2062/063 cash and bank balance turnover ratio is highly positive change by 20.97 times as comparison to previous years. The average cash and bank balance turnover ratio during the study period is 10.67 times and the C.V is 82.38 % which indicates more variation on cash and bank balance turnover ratio.

Figure No.4.5



4.2.5 Net Working Capital Turnover Ratio (NWCTR)

The net working capital turnover ratio measures how many times net working capital is used in relation to sales and the efficiency of the company. The net working capital turnover ratio is presented in the following table.

Table No. 4.12

Uni-Lever Nepal Limited

Net Working Capital Turnover Ratio (NWCTR)

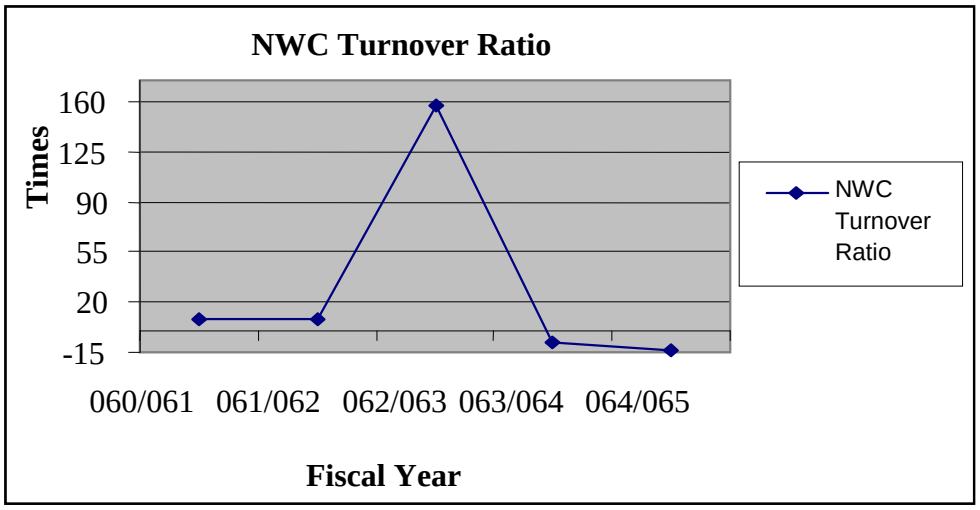
(RS in Million)

F/Y	Sales	NWC	Ratio (Times)	Change
2060/061	1244.73	163.43	7.62	---
2061/062	1524.90	180.54	8.45	0.83
2062/063	1481.56	9.39	157.78	149.33
2063/064	1434.94	(184.27)	-7.79	
2064/065	1818.53	(127.80)	-14.23	
Average			30.37	
C.V			211.76	

Source: Annual Reports of Uni-Lever Limited, Fiscal Years 20602/061-2064/065

The above table relevant that the net working capital turnover ratio in times of ULNLtd. Net working capital turnover ratio for the F/Y 2060/061, 2061/062, 2062/063, 2063/064 and 2064/065 is 7.62, 8.45, 157.78, -7.79, and -14.23 times respectively. In two F/Y net working capital turnover ratio is in negative form which indicates that the financial position is poor for these years. In F/Y 2062/063 the net working capital turnover ratio is highest times i.e. 157.78 times. The average net working capital turnover ratio during the study period is 30.37 times the C.V for the above ratio is 211.76 which depict very more variation due to fluctuation trend in the ratios.

Figure No. 4.6



4.2.6 Loan, Advance and Deposits turnover ratio (LADTR)

The loan advance and deposit turnover ratio measures the loan advance and deposit conversion period that has been contributed by different level of loan advance and deposit on sales. This is shown in the following table.

Table No. 4.13

Uni-Lever Nepal Limited

Loan, Advance and Deposits Turnover Ratio (CATR)

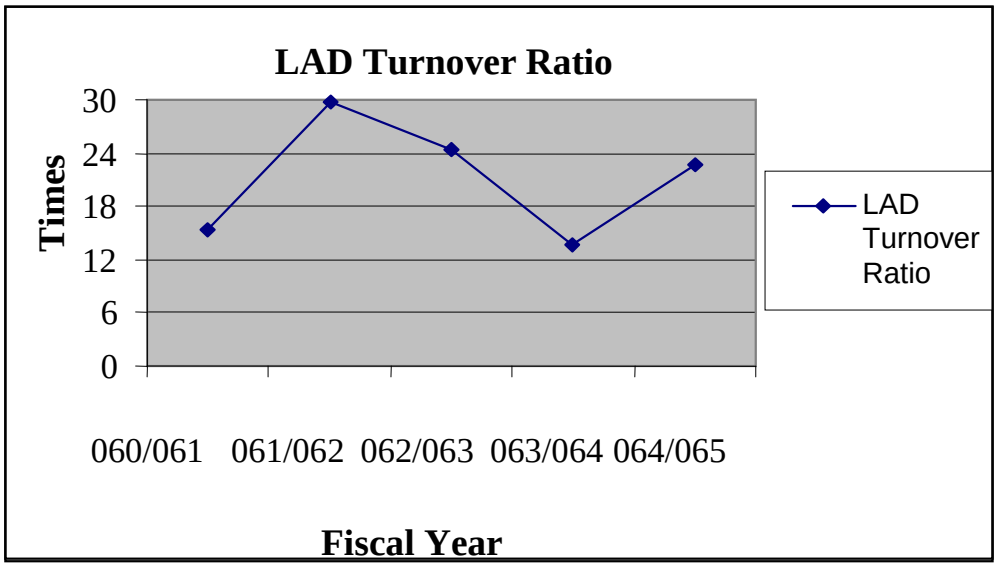
(RS in Million)

F/Y	Sales	LAD	Ratio (Times)	Change
2060/061	1244.73	81.60	15.25	---
2061/062	1524.90	51.43	29.65	14.40
2062/063	1481.56	60.62	24.44	-5.21
2063/064	1434.94	104.45	13.74	-10.70
2064/065	1818.53	80.29	22.65	8.91
Average			21.15	1.48
C.V			27.99	

Source: Annual Reports of Uni-Lever Limited, Fiscal Years 2060/061-2064/065

The above table shows the loan, advance and deposit turnover ratio in times of company. The average loan, advance and deposits turnover ratio during the study period is 21.05 times with average changing rate 1.48 times. In the F/Y 2063/064 there is the largest decreasing ratio from just previous F/Y by 10.70 times. The highest and the lowest loan, advance and deposit turnover ratio are 29.75 times and 13.74 times in F/Y 2061/062 and 2063/064 respectively and the C.V is 22.79 % variation during the study period.

Figure No. 4.7



4.3 Liquidity Position

Liquidity position of the firm depends on its working capital policy. If the firm follows aggressive policy, it has low liquidity position, while conservative policy has to high liquidity position.So, to analysis of working capital policy of ULNLtd with measure the liquidity position indicates the ability to pay of its short-term obligation. Liquidity position indicates the how many times the current assets is available to meet the one time of current liabilities. In this section current ratio and quick ratio are comparatively analyzed.

4.3.1Current Ratio (CR)

Current Ratio serves a similar purpose and it is frequently used. It is also called working capital ratio. It is considered as an index of solvency of company. It indicates the ability of the company to meet its current obligations. Change in current ratio can however, be misleading. If a company raises money through commercial paper & invests the amount in marketable securities net working capital is unattached but the current ratio changes. A current ratio of 2:1 in generally considered satisfactory for manufacturing company. It constitutes a rule of thumb for measuring liquidity .The ratios of ULNLtd for the period of study is calculated in Table 4.14 as under.

Table No. 4.14

Uni-Lever Nepal Limited

Current Ratio (CR)

(RS in Million)

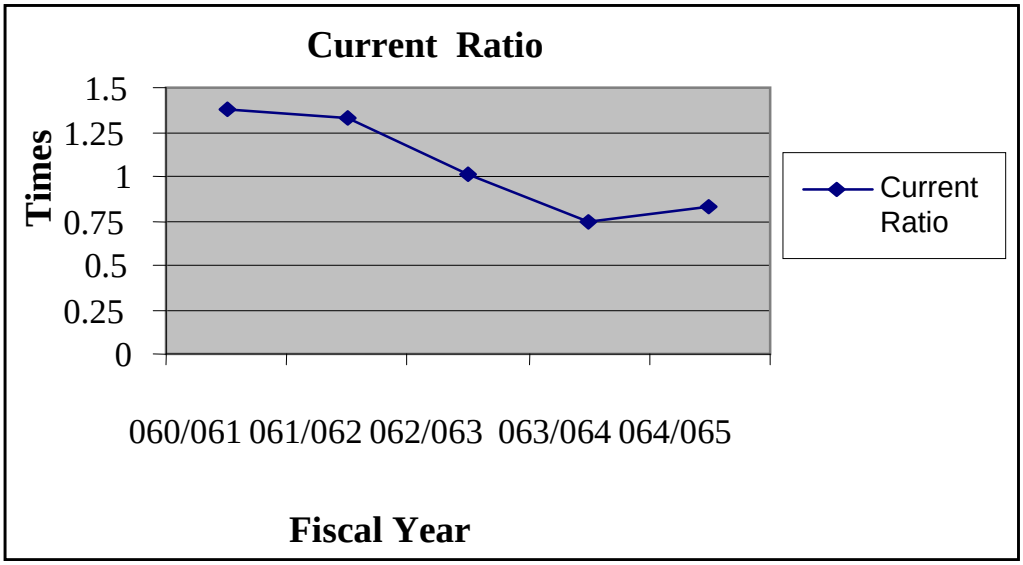
F/Y	Current Assets(CA)	Current Liabilities(CL)	Ratio (Times)	Change
2060/061	589.89	426.45	1.38	---
2061/062	724.24	543.71	1.33	-0.5
2062/063	891.41	882.02	1.01	-0.32
2063/064	557.96	742.23	0.75	-0.26
2064/065	622.67	750.47	0.83	0.08
Average			1.06	
C.V			23.58	

Source: Annual Reports of Uni-Lever Limited, Fiscal Years 2060/061-2064/065

The above table shows that the current ratio of ULNLtd in the F/Y 2060/061, 2061/062, 2062/063, 2063/064 and 2064/065 are 1.38:1 ,1.33:1 ,1.01:1 ,0.75:1 and 0.83:1 times respectively. In the F/Y 2064/065 it is increased by 0.08 and reached to 0.83:1 .But in

other four F/Y,it is in decreasing trend .The current ratio of 2:1 is generally, considered satisfactory for a manufacturing company. During the study period, the average current ratio of ULNLtd is found 1.06:1 which is below the current ratio standard .So the company's current ratio has found to be not satisfactory .The C.V of current ratio 23.58% which indicates less fluctuation on Current ratio.

Figure No. 4.8



4.3.2 Quick Ratio (QR)

Quick ratio measures the liquidity position in net term. Current Ration measures the short-term solvency in gross term which cannot measure the actual liquidity position due to inclusion of less liquid assets. Quick ratio indicates the availability of highly liquid assets which can be converted into cash within short-period as compared to current assets .The quick ratio is considered as perfect when the ratio comes 1:1 .Quick ratio does not consider inventories because they cannot be sold at anything above fire-sale price. The liquidity arises because finished goods cannot be sold for more than production cost.

Table No. 4.15

Uni-Lever Nepal Limited

Quick Ratio (QR)

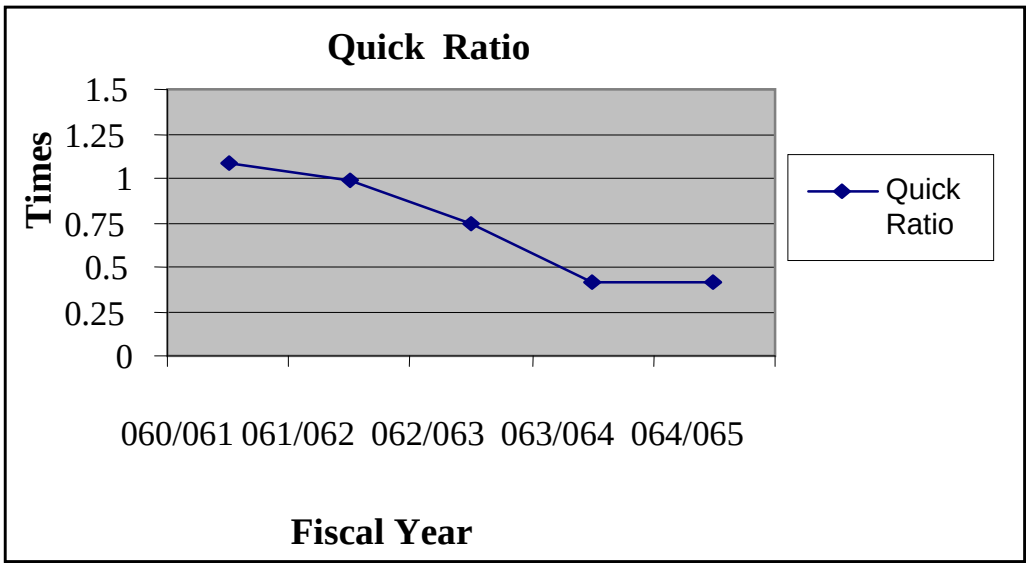
(RS in Million)

F/Y	Quick Assets(QA)	Current Liabilities(CL)	Ratio (Times)	Change
2060/061	463.78	426.45	1.09	---
2061/062	540.02	543.71	0.99	-0.10
2062/063	661.65	882.02	0.75	-0.24
2063/064	301.79	742.23	0.41	-0.34
2064/065	318.34	750.47	0.42	0.01
Average			0.73	
C.V			38.36	

Source: Annual Reports of Uni-Lever Limited, Fiscal Years 2060/061-2064/065

The above table shows the quick ratio of ULNLtd where quick assets consist of cash & bank balance, sundry debtors, prepaid loan, advance and deposits. Quick ratio of the company is 1.09:1, 0.99:1, 0.75:1, 0.41:1 and 0.42:1 for the F/Y 2060/061, 2061/062, 2062/063, 2063/064 and 2064/065.During the study period ,quick ratio changing is in decreasing trend. Further the study shows that the highest quick ratio of the company is 1.09:1 in F/Y 2060/061.In the F/Y 2063/064,there is largest decreasing ratio by 0.34% as compared to previous fiscal year .The above table relevant that quick ratio of ULNLtd has not meet standard (1:1) except F/Y 2060/061.The average quick ratio of the company is 0.73 times which is below the standard .So the quick ratio of ULNLtd is unfavorable .The C.V of the quick ratio is 38.36% during the study period .This indicate less fluctuation on quick ratio.

Figure No. 4.9



4.4 Working Capital Cash Conversion Cycle

Working capital cash conversion cycle measures the total numbers of days from raw materials purchase to when cash is received from debtors. This shows the cash inflow and outflow period of company, inflow and outflow are repetitive process. Cash inflow and outflow period determines as available credit period. It can be analyzed by following aspects.

4.4.1 Inventory Conversion Period (ICP)

Inventory conversion period refers, the time period for inventory to convert into sales. The short period indicates fast conversion of inventory to sales and long period indicates slow conversion period. Following table represents the ICP.

Table No. 4.16

Uni-Lever Nepal Limited

Inventory Conversion Period (ICP)

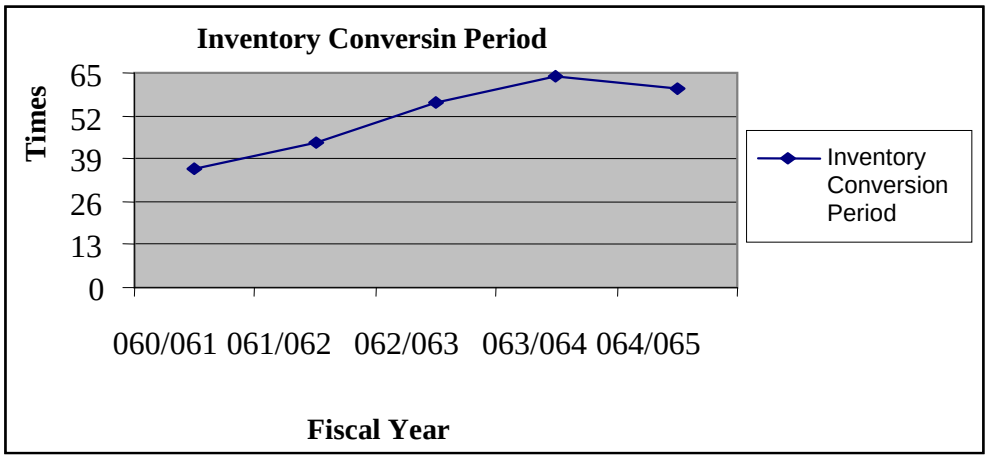
(RS in Million)

F/Y	Inventory	Sales	Days in Year	ICP (Days)	Change
2060/061	126.11	1244.73	360	36.47=36	---
2061/062	184.22	1524.90	360	43.49=44	8
2062/063	229.76	1481.56	360	55.84= 56	12
2063/064	256.17	1434.94	360	64.27=64	8
2064/065	304.33	1818.53	360	60.25=60	-4
Average				52	
C.V				19.85	

Source: Annual Reports of Uni-Lever Limited, Fiscal Years 2060/061-2064/065

Above table shows that inventory conversion period in days. The inventory conversion period of the company in F/Y 2060/061, 2061/062, 2062/063, 2063/064and 2064/065 are 36, 44, 56, 64 and 60 days respectively. Inventory conversion period is in increasing trend for the 1st four F/Y but in last F/Y 2064/065 it is decreased by 4 days .The inventory conversion period in F/Y 2063/064 is 64 days which is highest conversion period during the study. The lowest inventory conversion period is 36 days in F/Y 2060/061. The average ICP is 52 days and co-efficient of variation is 19.85%, which indicates less fluctuation on ICP.

Figure No. 4.10



4.4.2 Receivable Collection Period (RCP)

Receivable collection period is the average length of time required to convert the times receivable into cash. The receivable collection period is also called the days sales outstanding .The table shows the receivable collection period of Uni-Lever Nepal Limited in the five years study period.

Table No. 4.17

Uni-Lever Nepal Limited

Receivables Collection Period (RCP)

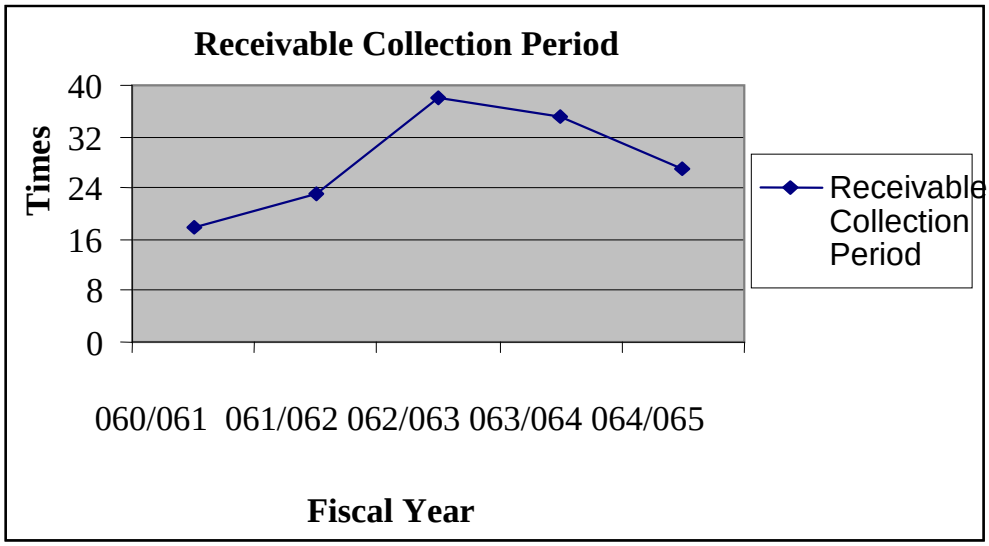
(RS in Million)

F/Y	Receivables	Sales	Days in Year	RCP (Days)	Change
2060/061	64.78	1244.73	360	18.01=18	---
2061/062	97.06	1524.90	360	22.91=23	5
2062/063	157.72	1481.56	360	38.32=38	15
2063/064	138.32	1434.94	360	34.70=35	-3
2064/065	136.45	1818.53	360	27.01=27	-8
Average				28.20=28	
C.V				26.50	

Source: Annual Reports of Uni-Lever Limited, Fiscal Years 2060/061-2064/065

The above table shows the length of time of the receivable collection period in days. The receivable collection period in F/Y 2060/061, 2061/062, 2062/063, 2063/064and 2064/065 is 18, 23, 38,35and 27 days. Receivable collection period during the study period is increasing trend except last two F/Y 2063/064 and 2064/065 .In these years receivable collection period is decreased by 3 and 8 days .The lowest days of receivable collection period is only 18 days in F/Y 2060/061 and the highest days of RCP is 38 days in F/Y 2062/063 .The average RCP of ULNLtd is 28 days with increasing change rate by 1.80 days during the study period. It indicates the collection policy of ULNLtd is adopted liberal collection policy but it is hardly to say that collection policy change by company. The C.V of company is 26.50, which indicates more fluctuation on RCP.

Figure No. 4.11



4.4.3 Payable Deferral Period (PDP)

The payable Deferral period measures the period of payment to the trade creditor of the company. It indicates the average length of time between the purchase of raw materials and labour and payment of cash for them. The payable Deferral period of ULNLtd is presented in the following table.

Table No. 4.18

Uni-Lever Nepal Limited

Payable Deferral Period (PDP)

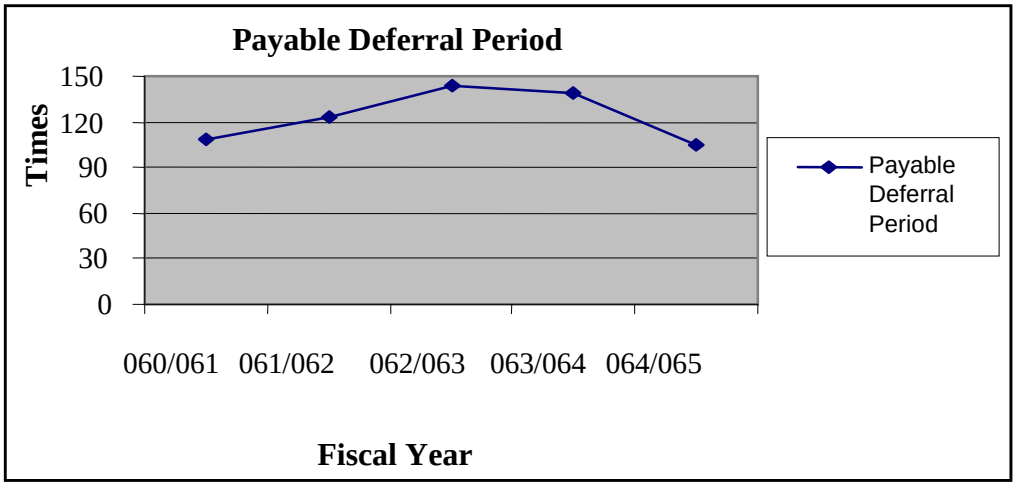
(RS in Million)

F/Y	Account Payable	Cost of Goods Sold	Days in Year	PDP (Days)	Change
2060/061	247.01	822.89	360	108.04=108	---
2061/062	325.72	952.25	360	123.14=123	15
2062/063	370.24	923.15	360	144.38=144	21
2063/064	353.31	916.46	360	138.78=139	-5
2064/065	368.49	1257.49	360	105.47=105	-34
Average				123.80=124	
C.V				12.72	

Source: Annual Reports of Uni-Lever Limited, Fiscal Years 2060/061-2064/065

The above table shows the length of time of payable Deferral period in days. The payable deferral period in F/Y 2060/061, 2061/062, 2062/063, 2063/064 and 2064/065 is 108,123,144,139 and 105 days respectively. Payable Deferral period during the study period is in increasing trend except last two F/Y 2063/064 and 2064/065 .In F/Y 2064/065 payable deferral period is largest change by 34 days .The lowest days of payable deferral period is only 105 days in F/Y 2064/065 and the highest days of PDP is 144 days in F/Y 2062/063.Payable Deferral Period is fluctuates from 105 days to 144 days over the study period .The average PDP is 124 days which is decreasing change rate by 0.6 days during the study period. The C.V of company is 12.72% ,which indicates less fluctuation on PDP.

Figure No. 4.12



4.4.4Cash Conversion Cycle (CCC)

The cash conversion is net time interval in days between actual cash expenditure of the firm on productive resources and ultimate recovery of cash. Following table represents the cash conversion cycle of ULNLtd.

Table No. 4.19

Uni-Lever Nepal Limited

Cash Conversion Cycle (CCC)

(Period In Days)

F/Y	ICP	RCP	PDP	CCC=ICP+RCP-PDP
2060/061	36	18	108	-54
2061/062	44	23	123	-77
2062/063	56	38	144	-50
2063/064	64	35	139	-40
2064/065	60	27	105	-18
Average				-47.8=-48
C.V				-203.56

Source: Annual Reports of Uni-Lever Limited, Fiscal Years 2060/061-2064/065

The above table shows that the average cash conversion cycle is -48 days. In all F/Y the cash conversion cycle of ULNLtd is in negative form. The cash conversion cycle in F/Y 2060/061,2061/062,2062/063,2063/064 and 2064/065 are -54,-77,-50,-40and -18 days respectively. The average cash conversion cycle of company is -48 days which seems to be very satisfactory for short period but in long period it will deteriorate the credit worthiness of the company. Firm could not get credit due to the company delay in obligation. The C.V is -203.56 %. This indicates that variation of ULNLtd is very high with negative. ULNLtd hasn't been able to make consistency on cash conversion cycle.

4.5 Profitability Position

An ability to earn maximum from the maximum use of available resources by the business organization is known as profitability. It is the measurers of efficiency. Working capital component has affected profitability position of the enterprises. The strong profitability position fulfills the aims of wealth maximization as well as profit maximization which motivate investor to invest. A study of profitability position is measured by net profit margin, gross profit margin, return on total assets, return on working capital and operating expenses ratio.

4.5.1 Net Profit Margin (NPM)

Net profit margin shows the relationship between net profits and sales it indicates available ratio of profit margin for ownership capital. Following table shows the net profit margin of ULNLtd

Table No. 4.20

Uni-Lever Nepal Limited

Net Profit Margin (NPM)

(RS in Million)

F/Y	NPAT	Sales	Ratio (%)
2060/061	93.17	1244.73	7.49
2061/062	140.78	1524.90	9.23
2062/063	189.12	1481.56	12.76
2063/064	238.16	1434.94	16.60
2064/065	263.06	1818.53	14.47
Average			12.11
C.V			27.58

Source: Annual Reports of Uni-Lever Limited, Fiscal Years 2060/061-2064/065

The above table shows that net profit margin is in fluctuating ratio due to fluctuating of net profit after tax and sales volume. 16.60% is the highest net profit margin in the overall study periods. Similarly 7.49% is the lowest net profit margin in the overall study periods. The net profit margin is in increasing trend expect in F/Y 2064/065. In F/Y 2064/065 net profit margin is decrease by 2.13 % as compared to previous years. The net profit margin of company is satisfactory for all fiscal years. The average net profit margin is12.11% and C.V of net profit margin ratio is 27.58 % which indicates less variation net profit after tax to sales ratio.

4.5.2 Gross Profit Margin (GPM)

Gross profit margin is the relationship between gross profit and sales. It measures the percentage return of gross profit out of total sales. Gross profit does not adjust operating and administrative expenses. Following table depicts the gross profit margin.

Table No. 4.21

Uni-Lever Nepal Limited

Gross Profit Margin (GPM)

(RS in Million)

F/Y	GP	Sales	Ratio (%)
2060/061	421.84	1244.73	33.89
2061/062	572.65	1524.90	37.55
2062/063	558.41	1481.56	37.69
2063/064	518.48	1434.94	36.13
2064/065	560.74	1818.53	30.83
Average			35.22
C.V			7.33

Source: Annual Reports of Uni-Lever Limited, Fiscal Years 2060/061-2064/065

In the above table, gross profit margin ratio of ULNLtd is in from F/Y 2060/061 to 2062/063 by 33.89% to 37.69% respectively. In F/Y 2063/064 and F/Y 2064/065 gross profit margin ratio is in decreasing trend. 37.69%gorss profit margin is the highest ratio during the study period. The average gross profit margin is 35.22 % during the study period. The C.V. of gross profit margin is 7.33% which indicates less variation gross profit to sales ratio.

4.5.3 Return on Total Assets (ROTA)

Return on total assets is the relationship of net profit after tax and total assets. It measures the percentage of return on the overall total assets employed for every activity of the enterprises. The return on total assets employed of ULNLtd. is presented below in table.

Table No. 4.22

Uni-Lever Nepal Limited

Return on Total Assets (ROTA)

(RS in Million)

F/Y	NPAT	Total Assets	Ratio (%)
2060/061	93.17	784.08	11.88
2061/062	140.78	939.71	14.98
2062/063	189.12	1098.94	17.21
2063/064	238.16	967.15	24.62
2064/065	263.06	985.25	26.70
Average			19.08
C.V			29.72

Source: Annual Reports of Uni-Lever Limited, Fiscal Years 2060/061-2064/065

The above table shows the return on total asset is increasing trend in F/Y 2060/061 to F/Y 2064/065. The highest and lowest return on total assets is 26.70% and 11.88% in F/Y 2064/065 and F/Y 2060/061 respectively. The average return on total assets during the overall study period is 19.08 with positive changing rate by 2.96%.The C.V of return on total assets is 29.72% which indicate less variation on return on total assets.

4.5.4 Return on Working Capital (ROWC)

This is the rate of return on current assets or working capital employed. Return on working capital means the profit with respect to its total current assets; it shows the effectiveness of utilization of current assets. The table presented below shows the return on working capital of ULNLtd.

Table No. 4.23

Uni-Lever Nepal Limited

Return on Working Capital (ROWC)

(RS in Million)

F/Y	NPAT	Current Assets(CA)	Ratio (%)
2060/061	93.17	589.89	15.79
2061/062	140.78	724.24	19.44
2062/063	189.12	891.41	21.22
2063/064	238.16	557.96	42.68
2064/065	263.06	622.67	42.25
Average			28.28
C.V			41.44

Source: Annual Reports of Uni-Lever Limited, Fiscal Years 2060/061-2064/065

Above table shows the return on working capital in percentage of ULNLtd. The above table shows that the average return on working capital of ULNLtd is 28.28% with positive changing rate is 5.29 during the study period. In F/Y 2063/064, the return on working capital of ULNLtd has 42.68% very higher than that of following fiscal year. Return on working capital has increasing trend with the C.V of return on working capital is 41.44%.

4.5.5 Operating Expenses Ratio (OER)

The operating ratio establishes the relationship in between total operating expenses and sales volume .It is an important ratio that explains the change in the net profit margin ratio .It also measures the efficiency of the company as regards to minimizing cost. The table presented below shows to operating ratio of ULNLtd during the study period.

Table No. 4.24

Uni-Lever Nepal Limited

Operating Expense Ratio (OER)

(RS in Million)

F/Y	Cost of Goods Sold	Operating Expenses	Sales	Ratio (%)
2060/061	822.89	304.92	1244.73	90.61
2061/062	952.25	406.42	1524.90	89.10
2062/063	923.15	345.60	1481.56	85.64
2063/064	916.46	290.94	1434.94	84.14
2064/065	1257.49	302.96	1818.53	85.83
Average				87.06
C.V				2.76

Source: Annual Reports of Uni-Lever Limited, Fiscal Years 2060/061-2064/065

The above table shows that the operating expenses ratio of ULNLtd in the F/Y from 2060/061 to 2064/065.The ratio of F/Y from 2060/061 to 2064/065 are 90.61%,89.10%,85.64%,84.14% and 85.83% respectively. The ratio has decreased except in F/Y 2064/065.The ratio fluctuates between 84.14% to 90.61% .High ratio indicates the inefficiency of management and unable to manage the working capital of the company. In an average the company has 87.06% of operating ratio during the study period.C.V of operating expenses ratio is 2.76% which indicates less fluctuation on operating expenses ratio.

4.6 Analysis of Working Capital Relationship

In order to study the significance of various working capital variables Karl Pearson's Correlation Coefficient 'r' is applied. This measures the degree and importance of relationship between the variables. Following table presents the relationship between working capital and other variables of ULNLtd.

Table No. 4.25

Uni-Lever Nepal Limited

Correlation Between Working Capital Variable.

Correlation Coefficient between	ULNLtd.			
	r	P.E	6P.E.	Remarks
i) CA and TA	0.69	0.16	0.96	Nothing can be concluded
ii) CA and CL	0.49	0.23	1.38	Nothing can be concluded
iii) CA and Its Components				
a. Inventory and CA	0	0.3	1.80	Insignificant
b. Debtors and CA	0.43	0.25	1.50	Nothing can be concluded
c. CBB and CA	0.78	0.12	0.72	Significant
d. LAD and CA	-0.77	0.12	0.72	Insignificant
iv) WC and Sales	0.09	0.30	1.80	Insignificant
v) WC Components and Sales				
a. Inventory and Sales	0.85	0.08	0.48	Significant
b. Debtors and Sales	0.54	0.21	1.26	Nothing can be concluded
c. CBB and Sales	-0.47	0.24	1.44	Insignificant
d. LAD and Sales	-0.13	0.30	1.80	Insignificant
iv) WC and Production	-0.11	0.30	1.80	Insignificant
WC Components and Production				
a. Inventory and Production	0.87	0.07	0.42	Significant
b. Debtors and Production	0.49	0.23	0.23	Nothing can be concluded

c. CBB and Production	-0.54	0.21	0.21	Insignificant
d. LAD and Production	0.07	0.30	0.30	Insignificant

Current Assets and Total Assets: The value of 'r' between current assets and total assets of ULNLtd is 0.69 that means they have high degree of positive relationship. P.E and 6P.E ratios are 0.16 and 0.96 respectively. Since here, P.E <r <6 P.E so, from the above calculation the relationship of them nothing can be concluded.

Current Assets and Current Liabilities: The 'r', P.E. and 6 P.E. between current assets and current liabilities are 0.49, 0.23 and 1.38 respectively. This means there is low degree of positive relationship between current assets and current liabilities. Since, P.E <r< 6P.E. so, nothing can be concluded.

Current Assets and Its Component: From the above correlation presentation table, the study finds that company has no relationship between the inventory and current assets because the value of 'r' is calculated as zero. Similarly, there is positive relationship between debtors, cash and bank balance and current assets and there is negative relationship between loan, advance and deposit and current assets. The value of 'r' is significant in case of cash and bank balance and current assets. Likewise, the value of 'r' is insignificant i.e. there is no evidence of correlation between inventory, LAD and current assets. The relationship between debtor and current assets result is nothing can be concluded because the value of 'r' is greater than P.E. and smaller than 6P.E. (i.e. P.E.<r<6 P.E.).

Working Capital and Sales: the Value of 'r' between working capital and sales of ULNLtd is 0.09 that means they have very low degree of positive relationship. P.E and 6P.E. ratios are 0.30 and 1.80 respectively. The value of 'r' is less than P.E. that means the relationship is said to be insignificant.

Working Capital Components and Sales: ULNLtd has positive ‘r’ between inventory and sales and debtors and sales. It has negative relationship two working capital components and sales. (i.e. CBB and LAD). In the above table, working capital components and sales the value of ‘r’ is greater than 6 P.E. in case of inventory and sales that means the relationship is said to be significant. Similarly the value of ‘r’ is less than P.E. in case of CBB and sales and LAD and sales that means the relationship is said to be insignificant. The relationship between debtors and sales cannot be concluded because the value of ‘r’ is greater than P.E. and smaller than 6 P.E. (i.e. P.E.< r< 6 P.E.).

Working Capital and Production: The value of ‘r’, P.E and 6 P.E in between working capital and production are -0.11, 0.30 and 1.80 respectively .This means relationship is negative and insignificant because the value of r is less than P.E.

Working Capital Components and Productions: Except in case of CBB and Production ,all the other relationship have positive value of ‘r’.The value of r is greater than 6 P.E in case of inventory and production , this means that there is significant relationship between inventory and production .The value of ‘r’ is greater than P.E and smaller than 6 P.E (i.e.P.E <r<6 P.E) in case of debtors and production .So, nothing can be concluded between debtors and production .The value of ‘r’ is less than respective value of P.E ,it means that there is insignificant relationship between CBB and production and LAD and production.

4.7 Working Capital Policy

Working capital policy refers to the firm’s basic policies regarding the target level for each category of current assets and current liabilities. Working capital management refers to the administration of all assets and current liabilities policies, which affects the overall functional areas of the firm. Every firm wants to maximize its shareholders’ wealth. In order to achieve the targeted goals, it has to perform many functions. For this purpose, firm has to determine the suitable current assets investment policy, maintain proper

relation of current assets with fixed and total assets ,and finance the current assets with short-term as well long-term sources.Thus,the better performance of current assets is the internal part of working capital management .There are two types of working capital policies.

4.7.1 Working Capital Investment Policy

It refers to the optimum level of working capital investment decision policy. It has three alternative policies. Fat-cat policy is that policy which has large amount of current assets and account receivable (credit sales), long ICP and RCP and lower return on investment. It's vice-versa is lean and mean policy, between these two policies has moderate policy .Following table measures working capital investment policy of the company.

Table No. 4.26

Uni-Lever Nepal Limited

Analysis of Working Capital Investment Policy on Average Basis

Average indicator of during the study period	ULNLtd
Average level of current assets on total assets (%)	70.85
Average level of credit sales on total sales (%)	13.60
Average return on working capital (%)	28.28
Average inventory conversion period (Days)	52
Average receivable collection period (Days)	28

From the above analytical table, ULNLtd has large portion of current assets on total assets but there is high return on working capital, less average inventory conversion period, short average receivable collection period and low amount of credit sales which shows that ULNLtd has followed lean and mean working capital investment policy.

4.7.2 Working Capital Financing Policy

There are three alternatives of financing mix policy. The aggressive financing mix policy is that policy where current liabilities is used to finance a portion of fixed assets in which total equities plus long term liabilities are more than total fixed assets or current liabilities is more than current assets(Negative NWC).The conservative policy is that policy which uses only long term fund to finance all kinds of current assets and fixed assets without making use of any current liabilities .In this the total of equity plus long term liabilities is equal to total of fixed assets plus current assets or current assets equal to zero(NWC is equal to total current assets) .Moderate policy has long-term funds to finance a portion of current assets .In this total of equity plus long-term liabilities is greater than fixed assets and current liabilities is greater than zero (positive NWC).Following table shows the financing mix of the company.

Table No. 4.27

Uni-Lever Nepal Limited

Calculation of Current Assets Financing Mix Policy

(RS in Million)

F/Y	E+ LTL	FA	FA+ CA	NWC
2060/061	358.43	146.16	736.05	163.43
2061/062	396.01	135.71	859.95	180.54
2062/063	216.93	127.77	1019.18	9.39
2063/064	224.91	145.78	703.74	-184.27
2064/065	234.79	148.93	771.60	127.80
Average	286.21	140.87	818.10	8.26

The above table shows the working capital financing mix policy .ULNLtd.has equity plus long-term liabilities is greater than fixed assets in all fiscal year .Net working capital of company is positive except last two F/Y 2063/064 and 2064/065 respectively .Average total of equity and long-term liabilities is also greater than fixed assets and average net

working capital seems to be positive. Therefore, from the above analytical table it is found that ULNLtd has used moderate working capital financing mix policy.

4.8 Major Findings

- Working capital structure: It has been found that CA structure levels of ULNLtd are not stable. The CA portion on TA ranged between 81.12% to 57.69% with the average portion 70.85% with fluctuating trend of -2.39% and similarly on FA ranged between 697.67% to 382.74% with average portion 487.15% and fluctuating trend of14.51% .The average NWC on TA and FA portion are 1.77% and 8.00% respectively. It has been found that in the CA, cash and bank balance holds the largest portion followed by inventory, debtors and loans advance and deposits with 36.90%, 33.48%, 17.75% and 11.87% respectively. The highest fluctuations are in cash and bank balance and inventories corresponding.

- Utilization of working capital: Current assets turnover ratio has found increasing by 0.16times due to slightly increasing trend .The average of inventory turnover ratio to sales is 7.24 times and C.V is 12.90% which indicate that ULNLtd cannot efficiently utilize the inventories and less variation in figure of inventory turnover ratio. The average receivable turnover ratio is 13.60% .It is found that the receivable turnover ratio is changing year by year. Company followed sometime hard collection and liberal collection policy during the study period. Cash and bank balance has found increase by 5.36 times. The average turnover ratio is 10.67 times. Similarly it is found that the average of net working capital turnover ratio and loan advance and deposits turnover ratio is 30.37 times and 21.15 times.

- Liquidity position: The liquidity position of ULNLtd is analyzed with the current ratio and quick ratio. Current ratio of ULNLtd is ranging in between 0.75:1 to 1.38:1 .The company's average current ratio is 1.06:1 time during the study

period, which is below the standard 2:1.It indicates poor liquidity position of ULNLtd .The quick ratio of the company is ranging in between 0.4 times to 1.09 time and company's average 0.73:1, which is less than standard 1:1 .It show that company has not been able to convert current assets quickly in cash in order to meet current liabilities. Current ratio and quick ratio both revealed and unsatisfactory liquidity position of ULNLtd and thereafter to increase the financial position for working capital.

- Working capital conversion cycle: The inventory conversion period of ULNLtd is ranging between 36 days in F/Y 2060/061 to 64 days in F/Y 2063/064 .It has the average inventory conversion period of 52 days .The receivable collection period of ULNLtd increasing trend .RCP varies from minimum of 18 days to maximum of 38 days. It has average RCP of 28 days .The payable deferred period varies from maximum of 144 days in F/Y 2062/063 to minimum 105 days in F/Y 2064/065.The average is 124 days .The average cash conversion cycle of the ULNLtd is in negative -48 days which seems satisfactory for short-run cash conversion cycle for all F/Y seems to be negative. The analysis of ULNLtd has shown that long PDP and short ICP and short PCP, which is favorable for the company but it will cause negative impact from its trade creditors and firm could get credit due to the company delay in obligations.

- Profitability Position: Profitability position of ULNLtd has been found that average NPM, GPM, ROTA, ROWC and OER are 12.11%, 35.22%, 19.08 %, 28.28% and 87.06% respectively. Net profit margin and gross profit margin are in increasing trend but return on total assets and return on working capital are in decreasing trends that mean there is improper utilization of assets .It has been found that there is high gap between gross profit margin and net profit margin due to the high operating expenses 87.06% of sales with average decreasing rate of 0.96%.

- Relationship of Working Capital Components: The correlation coefficient ‘r’ of current assets with total assets has found high degree of positive relationship but the correlation coefficient ‘r’ of current assets with current liabilities has found low degree of positive relationship. In component wise relationship between inventory and current assets is uncorrelated where as LAD has found negative correlation with current assets. CBB and current assets has found significant relationship. In overall ULNLtd has insignificant relationship of working capital components with sales except inventory and sales. Values of ‘r’ between working capital components and production are negatively correlated with insignificant relationship. Working capital components and production are mostly positive except CBB and production. There is significant relationship between inventory and production where as there is insignificant relationship between other remaining working capital components and production. There has been nothing can be concluded between debtors and current assets, sales and production because is found that the values of ‘r’ is greater than P.E. and smaller than 6 P.E. (i.e. P.E < r < 6 P.E.)

- Working Capital Investment Policy: ULNLtd has been found that average return of working is 23.28%, high return on working capital which implies that the working capital investment policy of ULNLtd has followed lean and mean policy, ULNLtd has average total equity plus long-term liabilities is more than fixed assets (i.e. Rs 286.21>Rs 140.87) with Rs 8.26 million positive net working capital. Therefore, ULNLtd is following moderate working capital financing mix policy.

CHAPTER- V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The manufacturing industries are the main pillar of Nepalese economy. The main motive of this study is to determine the working capital management and working capital policy of Uni-lever's Nepal Ltd. In this study, working capital financing policy and working capital investment policy is studied. Elements of working capital are determined and various ratios are also calculated in this study to obtain result of this study. Various appropriate research methodology has been used which includes the various financial analysis as a financial tool with the help of various financial data available from the secondary data published by the company. The major ratio analysis consists of current ratio, quick ratio. Besides, every element of the current is also analyzed in reference to the total assets, fixed assets and current assets. The composition of working capital position, turnover position and liquidity position, current assets financing policy, investment policy have also been discussed and analyzed. The study has given focus on working capital analysis, percentage of working capital on cost of production and correlation coefficient between cost of production, sales and other variables. Giving equal importance and making the study more reliable, the study has focused on the percentage of current assets on sales determination and their analysis. Apart from this , Receivable collection period , inventory conversion period , Payable deferral period, cash conversion cycle, proportion of current assets to total assets, turnover position, margin analysis and profit and structure of working capital discussion have added a brick on making the study more reliable and significantly justifiable. Obviously, the study becomes resourceful and important from study point of view with inclusion of the above discussion and analysis that aims at meeting the objectives of the study.

The necessary data have been derived from the balance sheet and profit and loss account of ULNL for the periods of five years from F/Y 2060/061 to F/Y 2064/065. The obtained data have been described and analyzed with the help of statistical methodology in chapter four. Now in this chapter, an attempt has been made to present the conclusions and some suggestions to the company.

5.2 Conclusions

In conclusion, it can be said that working capital is the most important part of manufacturing companies and it should not be neglected. Manufacturing companies are not getting prosperous position due to their administrative negligence in day to day operation, unnecessary blockage of inventories and lack of specific working capital policy. While pinpointing the sample company, the study find the investment in current assets is high with respect net fixed assets. ULNL has excess level of current assets with 70.85 % in comparison to standard 30% to 60% of total assets. The current assets turnover ratio of ULNL is not in full satisfaction level. In comparison only cash and bank balance is more than other components of ULNL. A huge amount of cash and bank balance is occupied as current assets of the company. Liquidity position of ULNL shows it is unable to meet standard or it is below the standard value, which remains unsuccessful to meet the current obligation, which specific the liquidity position of ULNL is poor.

The outcome of cash conversion cycle of ULNL is not in satisfied condition for long run because analysis shows that there is long payable deferral period, short inventory conversion period and short receivable collection period, which is favorable only for short run and it will cause negative impact from its trade creditors in upcoming days of the company. Similarly, after analyzing the various profitability ratios, it can be concluded that there is operating inefficiency in sample Company and overall return position of company is also not in favorable condition because of inefficient utilization of current assets, total assets and shareholder’s wealth. ULNL has followed moderate financing policy with financing short- term loan current assets, remaining position of

fixed assets with average minimum positive net working capital. Lean and mean policy is adopted by ULNL to invest current assets with strict credit policy and high return on working capital rate.

The correlation coefficients of the variables selected for the statistical analysis show that ULNLtd has insignificant relationship and negative correlation with each other except with CBB and CA, Inventory and Sales and Inventory and Production. As we know that positive correlation means both of the variables are moving towards the same directions, the finding suggest that ULNLtd has strong relationship between each variables.

5.3 Recommendations

At the end of the research, the study without practicable, suggestion would be incomplete phenomenon. Therefore, the following recommendations have been made on the basis of foregoing analysis for further improvement of existing working capital management.

- ULNLtd should set the standard for the ratio of current assets to fixed assets. It has not any clear vision about the management of current assets to fixed assets.

- The working capital should be arranged in such away that it should generate the maximum turnover. The working capital has not been fully utilized. The company should try to utilize its working capital to maintain sound turnover position.

- ULNL being a manufacturing company need an efficient liquidity position to operate its business but it has lower value than standard. Therefore, it should maintain the standard value of both current ratio and quick ratio to get the optimum solvency position.

- There is extremely high operating ratio in the company, which indicates inefficiency and mismanagement of the company. So, the company should reduce the operating expenses.

- Negative net working capital represents the poor financial management of the company. Some study period shows the similar case in ULNL while analyzing the data. Therefore, to eradicate these situations, suitable working capital should be formulated and implemented. Keeping optimum size of investment in current assets and current liabilities and regular check of working capital could do it.

- Liquidity handling of the company is not satisfactory because it's in the highly fluctuating trend. There is absence of limit at which the cash and bank balance should be maintained. Therefore, the company should adopt a proper managerial policy because holding of cash more than requirement gives no return to the company.

- The management of working capital highly depends upon the effective inventory management. The company should make the effective sales plan, which is for immediate marketability and it certainly decreasing the problem of overstocking. The management must given attention towards capacity utilization, carrying cost, ordering cost and lead-time for effective inventory management. At this same time, to manage inventory and minimize the wastage there should be good storekeeping system, better materials handling system and timely inspection system.

- The operating cycle of ULNL indicates that there is negative cash conversion cycle due to poor collection and payable policy. Longer cash conversion cycle and negative cash conversion period both are not good for the company. So, the

company should manage inventory conversion period, receivable collection period and payable deferral period by applying suitable credit policy.

- The huge amount of receivables kept by the company should be reduces or the optimal level should be adjusted according to the sale and production. In this regard management is advised to improve its marketing policy and should be integrated with credit policy. The credit policy has highly influenced to the sales. Certain target can be set for credit policy and avoid unnecessary increase in the volume of receivable.

- The optimum level of raw materials required for the targeted production. It should be determined in advance and maintain accordingly for ensuring economical and smooth running of production activities.

- Company should develop appropriate management information system by preparing timely reports. This aids in determining the amount of working needs. They should recognize the value of management system.

- Skilled, trained and efficient manpower is the basis needs and key of companies. The company should increase the efficiency of higher and lower level employees. Training programmed should be arranged for the higher and lower level employees. Manpower should be well versed in developed technologies and familiar to their applications. Not only technical personnel, but financial manager, account officer, inventory controllers, sales officers and other general employees should be given frequent training programmed, organized by different association. The skilled manpower decreases the operating cost and increases the profitability.

Appendix-1

A Brief Overview of UniLever Nepal Limited

UniLever Nepal Limited (ULNLtd.) company was formed as subsidiary company of Hindustan Unilever Limited, India .The factory's registered office situated at Basamadi VDC-5, of Makwanpur District which is about six kilometer far from Hetauda Municipality and its corporate office is situated at Heritage plaza II Block C & D, 4th floor, Kamaladi, Kathmandu. Unilever Nepal Limited was established in 1994 as joint venture company between Hindustan Unilever limited, India and Nepali promoters under the company Act 2021.It is the subsidiary company of foreign investment and technology transformation .The main objective of the company is to meet the everyday needs of the people everywhere-to anticipate the aspirations of consumers and customers and to respond creatively and competitively with branded product and services which raise the quality of life.

As a result by the eleventh annual general meeting of the company dated 2061.8.28 (13th Dec, 2004) the office of the registrar of company /HMG has, vide their letter dated 2061.10.28(10th Feb, 2005), approved the change in the name of the company from Nepal Lever Limited into UniLever Nepal Limited.

The main products of the company are soaps, detergents, cosmetic products, toiletries soap noodles, Scourers and other chemical product. They are marketed in and outside the country under the brand name of product Unilever Nepal Limited .The number of employees in employment of the company at the end of Ashad 32,2064 is 133.

The authorized capital of company is Rs30,00,00,000(Thirty crores) divided into 30,00,000 (Thirty Lakhs) on ordinary shares of Rs100 each and paid of capital is 9,20,70,000 divided into 9,20,700 of 100 each. Out of which 80% of shares hold by

subsidiary company Hindustan Unilever Limited, 5% shares hold by Sibkrim Land and Ind.Co (Pvt.) Ltd and remaining 15% shares hold by public shareholders.

The Managing Directors under the supervision and control of the Board of Directors manage the company .The Board of Director appoints the managing directors .The Company's Board of Director at present is comprised of seven members. The present chairman of the Board of Director (BOD) is M.K Sharma and Kamran Bakr is Managing Director.

The company has been awarded with the following during the year.

FNCCI National Excellence Award -2062: Commendations for significant achievement in operational information dissemination and utilization in large-scale category.

Best Presented Account Award -2006: Runner up in the category of manufacturing sector by the institute of chartered accountants of Nepal. This achievement was three years in a row, the first year being adjudged as the best.

Appendix-2
UNILEVER NEPAL LIMITED
KATHMANDU, NEPAL
COMPARATIVE BALANCE SHEET

(RS in Million)

Particulars/Fiscal Year	2060/061	2061/062	2062/063	2063/064	2064/065
Capital And Liabilities					
1.Shareholders Funds					
a. Share Capital	92.07	92.07	92.07	92.07	92.07
b. Reserve and Retained Earning	266.36	303.94	124.86	132.84	142.72
Preference Share	---	---	---	---	---
Total	**358.43**	**396.01**	**216.93**	**224.91**	**234.79**
Assets: I Fixed Assets					
a. Gross Block	314.06	317.83	319.23	347.74	336.97
b. Less Dep	(167.90)	(184.35)	(193.71)	(203.56)	(209.08)
c. Net Block	146.16	133.48	125.52	144.18	127.89
d.AssetUnderConsturction	---	2.23	2.25	1.60	21.04
Total	**146.16**	**135.71**	**127.77**	**145.78**	**148.93**
2. Investment					
a. Government Securities	48.84	79.76	79.76	79.76	---
b. Fixed Deposit	---	---	---	183.65	213.65
Total	48.84	79.76	79.76	263.41	213.65
3. Current Assets					
a. Inventories	126.11	184.22	229.76	256.17	304.33
b. Trade & Other Receivables	64.78	97.06	157.72	138.32	136.45
c. Cash and Bank Balance	317.40	391.53	443.31	59.02	101.60
d. Pre Paid, Advance, Loan and Deposits	81.60	51.43	60.62	104.45	80.29
Total (A)	**589.89**	**724.24**	**891.41**	**557.96**	**622.67**
Less:- Current Liabilities & Provision					
a. Trade & Other Payables	247.01	325.72	370.24	353.31	368.49
b.Short Term Loans	NIL	NIL	NIL	NIL	NIL
c. Provisions	179.44	207.99	511.78	388.92	381.98
Total (B)	**426.45**	**543.71**	**882.02**	**742.23**	**75047**
Net Current Assets (A-B)	163.43	180.54	9.39	(184.27)	(127.80)
Grand Total	**358.43**	**396.01**	**216.93**	**224.91**	**234.79**

Source: Annual Reports of Uni-Lever Nepal Limited, Fiscal years 2060/061-2064/065

Appendix-3
UNILEVER NEPAL LIMITED
KATHMANDU, NEPAL
COMPARATIVE PROFIT AND LOSS ACCOUNT

(RS in Million)

Particulars/Fiscal Year	2060/061	2061/062	2062/063	2063/064	2064/065
1. Net Sales	1244.73	1524.90	1481.56	1434.94	1818.53
Cost of Goods Sold	822.89	952.25	923.15	916.46	1257.79
2.Stock Consumed	718.29	839.60	807.39	801.13	1115.55
(i) Opening Stock	144.45	126.11	184.22	229.76	256.17
(ii) Purchase	699.95	897.71	852.93	827.54	1163.71
(iii) Closing Stock	(126.11)	(184.22)	(229.76)	(256.17)	(304.33)
3. Wages and Salaries	23.96	22.85	22.67	19.27	23.97
4. Direct Mfg. Expenses	80.64	89.80	93.09	96.06	118.27
5. Gross Profit	421.84	572.65	558.41	518.48	560.74
6. General Expenses	278.28	384.87	326.40	269.57	282.38
7. Interest	2.60	1.79	1.77	1.79	1.06
8. Pre. Dep. Opt Profit	140.96	185.99	230.24	247.12	277.30
9. Depreciation	24.04	19.76	17.43	19.58	19.52
10. Operating Profit	116.92	166.23	212.81	227.54	257.78
11. Income from Other Sources	7.13	27.55	42.81	77.12	87.78
12. Pre- Tax Profit	124.05	193.78	255.62	304.66	345.56
13. Provision For Taxation	30.88	53.00	66.50	66.50	82.50
14. Net Profit	93.17	140.78	189.12	238.16	263.06
15. Transfer From Previous Year	256.05	266.36	303.94	124.86	132.84
16. Profit Distribution (%)					
(i)Equity Dividend	82.86	92.07	368.28	230.18	253.19
(%)	90%	100%	400%	250%	275%
(ii) Preference Dividend (%)	---	---	---	---	---
(iii) Other (%)	---	---	---	---	---
17. Profit Retained	266.36	303.94	124.86	132.84	142.72
(%)	76.27%	76.75%	25.32%	36.59%	36.05%

Source: Annual Reports of Uni-Lever Nepal Limited, Fiscal years 2060/061-2064/065

Appendix-4

Calculation of C.V of Current assets on Total Assets and Fixed Assets

X	$(X-\bar{X})$	$(X-\bar{X})^2$	Y	$(Y-\bar{Y})$	$(Y-\bar{Y})^2$
75.61	4.76	22.66	403.59	-83.56	6982.27
77.07	6.22	38.69	533.67	46.52	2164.11
81.12	10.27	105.47	697.67	210.52	44318.67
57.06	-13.16	173.19	382.74	-104.41	10901.45
63.20	-7.65	58.52	418.10	-69.05	4767.90
$\bar{X}$=70.85		398.53	$\bar{Y}$=487.15		69134.40

|

$$\exists = \sqrt{\frac{\phi(X-\bar{X})^2}{N}}$$

$$= \sqrt{\frac{[illegible]}{5}} = 8.93\%$$

$$\text{C.V.} = \frac{\exists}{\bar{X}} \times 100 = \frac{[illegible]}{70.85} \times 100 = 12.60\%$$

$$\exists = \sqrt{\frac{\phi(Y-\bar{Y})^2}{N}}$$

$$= \sqrt{\frac{[illegible]}{5}} = 117.59\%$$

$$\text{C.V.} = \frac{\exists}{\bar{Y}} \times 100 = \frac{[illegible]}{487.15} \times 100 = 24.14\%$$

Appendix-5

Calculation of C.V of Net working capital on Total Assets and Fixed Assets

X	$(X-\bar{X})$	$(X-\bar{X})^2$	Y	$(Y-\bar{Y})$	$(Y-\bar{Y})^2$
20.82	19.05	362.90	111.82	103.82	10778.59
19.21	17.44	304.15	133.03	125.03	15632.50
0.85	-0.92	0.85	7.35	-0.65	0.42
-19.85	-20.85	433.47	-126.40	-134.40	18063.36
-12.97	-14.74	217.27	-85.81	-93.81	8800.32
$\bar{X}$=1.70		1318.64	$\bar{Y}$=8		53275.19

|

$$\exists = \sqrt{\frac{\phi(X-\bar{X})^2}{N}}$$

$$= \sqrt{\frac{[illegible]}{5}} = 16.24\%$$

$$\text{C.V.} = \frac{\exists}{\bar{X}} \times 100 = \frac{[illegible]}{1.70} \times 100 = 917.50\%$$

$$\exists = \sqrt{\frac{\phi(Y-\bar{Y})^2}{N}}$$

$$= \sqrt{\frac{[illegible]}{5}} = 103.22\%$$

$$\text{C.V.} = \frac{\exists}{\bar{Y}} \times 100 = \frac{[illegible]}{8} \times 100 = 129.03\%$$

Appendix-6

Calculation of C.V of Inventory on Total Assets and Current Assets

X	$(X-\bar{X})$	$(X-\bar{X})^2$	Y	$(Y-\bar{Y})$	$(Y-\bar{Y})^2$
16.07	-6.72	45.16	21.38	-12.10	146.41
19.60	-3.19	10.18	25.44	-8.04	64.64
20.91	-1.88	3.53	25.77	-7.71	59.44
26.49	3.70	13.69	45.91	12.43	154.50
30.89	8.10	65.61	48.88	15.40	237.16
$\bar{X}$=22.79		138.17	$\bar{Y}$=33.48		662.15

|

$$\exists = \sqrt{\frac{\phi(X-\bar{X})^2}{N}}$$

$$= \sqrt{\frac{138.17}{5}} = 5.26\%$$

$$\text{C.V.} = \frac{\exists}{\bar{X}} \times 100 = \frac{5.26}{22.79} \times 100 = 23.08\%$$

$$\exists = \sqrt{\frac{\phi(Y-\bar{Y})^2}{N}}$$

$$= \sqrt{\frac{662.15}{5}} = 11.51\%$$

$$\text{C.V.} = \frac{\exists}{\bar{Y}} \times 100 = \frac{11.51}{33.48} \times 100 = 34.37\%$$

Appendix-7

Calculation of C.V of Debtors on Total Assets and Current Assets

X	$(X-\bar{X})$	$(X-\bar{X})^2$	Y	$(Y-\bar{Y})$	$(Y-\bar{Y})^2$
8.25	-3.97	15.76	10.98	-6.77	45.83
10.33	-1.89	3.57	13.40	-4.35	18.92
14.35	2.13	4.54	17.69	-0.06	0.00
14.30	2.08	4.33	24.79	7.04	49.56
13.85	1.63	2.66	21.91	4.16	17.31
$\bar{X}$=12.22		30.86	$\bar{Y}$=17.75		131.62

|

$$\exists = \sqrt{\frac{\phi(X-\bar{X})^2}{N}}$$

$$= \sqrt{\frac{30.86}{5}} = 2.48\%$$

$$\text{C.V.} = \frac{\exists}{\bar{X}} \times 100 = \frac{2.48}{12.22} \times 100 = 20.29\%$$

$$\exists = \sqrt{\frac{\phi(Y-\bar{Y})^2}{N}}$$

$$= \sqrt{\frac{131.62}{5}} = 5.13\%$$

$$\text{C.V.} = \frac{\exists}{\bar{Y}} \times 100 = \frac{5.13}{17.75} \times 100 = 28.90\%$$

Appendix-8

Calculation of C.V of Cash and Bank Balance on Total Assets and Current Assets

X	$(X-\bar{X})$	$(X-\bar{X})^2$	Y	$(Y-\bar{Y})$	$(Y-\bar{Y})^2$
40.44	12.67	160.53	53.81	16.91	285.95
41.66	13.89	192.93	54.06	17.16	294.47
40.34	12.57	158.00	49.73	12.83	164.61
6.10	-21.67	469.59	10.58	-26.32	692.74
10.31	-17.46	304.85	16.32	-20.58	423.54
$\bar{X}$=27.77		1285.90	$\bar{Y}$=36.90		1861.31

|

$$\exists = \sqrt{\frac{\phi(X-\bar{X})^2}{N}}$$

$$= \sqrt{\frac{\text{KΛP=HΣI}}{5}} = 16.04\%$$

$$\text{C.V.} = \frac{\exists}{\bar{X}} \times 100 = \frac{\text{KOHIN}}{27.77} \times 100 = 57.76\%$$

$$\exists = \sqrt{\frac{\phi(Y-\bar{Y})^2}{N}}$$

$$= \sqrt{\frac{\text{KPOKHMK}}{5}} = 19.29\%$$

$$\text{C.V.} = \frac{\exists}{\bar{Y}} \times 100 = \frac{\text{KΣHΛΣ}}{36.90} \times 100 = 52.28\%$$

Appendix-9

Calculation of C.V of Loans, Advance and Deposit on Total Assets and Current Assets

X	$(X-\bar{X})$	$(X-\bar{X})^2$	Y	$(Y-\bar{Y})$	$(Y-\bar{Y})^2$
10.40	2.33	5.43	13.83	1.96	3.84
5.47	-2.60	6.76	7.10	-4.77	22.75
5.52	-2.55	6.50	6.80	-5.07	25.70
10.80	2.73	7.45	18.72	6.85	46.92
8.15	0.08	.01	12.89	1.02	1.04
$\bar{X}$=8.07		26.15	$\bar{Y}$=11.87		100.25

|

$$\exists = \sqrt{\frac{\phi(X-\bar{X})^2}{N}}$$

$$= \sqrt{\frac{\text{ΛOHK=}}{5}} = 2.29\%$$

$$\text{C.V.} = \frac{\exists}{\bar{X}} \times 100 = \frac{\text{ΛHΣ}}{8.07} \times 100 = 28.38\%$$

$$\exists = \sqrt{\frac{\phi(Y-\bar{Y})^2}{N}}$$

$$= \sqrt{\frac{\text{KI I HΛ=}}{5}} = 4.48\%$$

$$\text{C.V.} = \frac{\exists}{\bar{Y}} \times 100 = \frac{\text{NHNP}}{11.87} \times 100 = 37.74\%$$

Appendix-10

Calculation of C.V of Current Assets Turnover Ratio and Inventory Turnover Ratio

X	$(X-\bar{X})$	$(X-\bar{X})^2$	Y	$(Y-\bar{Y})$	$(Y-\bar{Y})^2$
2.11	-0.16	0.03	9.87	2.63	6.92
2.11	-0.16	0.03	8.28	1.04	1.08
1.66	-0.61	0.37	6.45	-0.79	0.62
2.57	0.30	0.09	5.60	-1.64	2.69
2.92	0.65	0.42	5.98	-1.26	1.59
$\bar{X}$=2.27		0.94	$\bar{Y}$=7.24		12.90

|

$$\exists = \sqrt{\frac{\phi(X-\bar{X})^2}{N}}$$

$$= \sqrt{\frac{\text{[illegible]}}{5}} = 0.43\%$$

$$\text{C.V.} = \frac{\exists}{\bar{X}} \times 100 = \frac{\text{[illegible]}}{2.27} \times 100 = 18.94\%$$

$$\exists = \sqrt{\frac{\phi(Y-\bar{Y})^2}{N}}$$

$$= \sqrt{\frac{\text{[illegible]}}{5}} = 1.61\%$$

$$\text{C.V.} = \frac{\exists}{\bar{Y}} \times 100 = \frac{\text{[illegible]}}{7.24} \times 100 = 22.24\%$$

Appendix-11

Calculation of C.V of on Receivables Turnover Ratio and Cash &Bank Balance Turnover Ratio.

X	$(X-\bar{X})$	$(X-\bar{X})^2$	Y	$(Y-\bar{Y})$	$(Y-\bar{Y})^2$
19.21	5.61	31.47	3.92	-6.47	45.56
15.71	2.11	4.45	3.89	-6.78	45.97
9.39	-4.21	17.72	3.34	-7.33	53.73
10.37	-3.22	10.43	24.31	13.64	189.05
13.33	-0.27	0.07	17.90	7.23	52.27
$\bar{X}$=13.60		64.14	$\bar{Y}$=10.67		386.58

|

$$\exists = \sqrt{\frac{\phi(X-\bar{X})^2}{N}}$$

$$= \sqrt{\frac{\text{[illegible]}}{5}} = 3.58\%$$

$$\text{C.V.} = \frac{\exists}{\bar{X}} \times 100 = \frac{\text{[illegible]}}{\text{[illegible]}} \times 100 = 26.32\%$$

$$\exists = \sqrt{\frac{\phi(Y-\bar{Y})^2}{N}}$$

$$= \sqrt{\frac{\text{[illegible]}}{5}} = 8.79\%$$

$$\text{C.V.} = \frac{\exists}{\bar{Y}} \times 100 = \frac{\text{[illegible]}}{\text{[illegible]}} \times 100 = 82.38\%$$

Appendix-12

Calculation of C.V of Net Working Capital Turnover Ratio and Loans, Advance and Deposit Turnover Ratio

X	$(X-\bar{X})$	$(X-\bar{X})^2$	Y	$(Y-\bar{Y})$	$(Y-\bar{Y})^2$
7.62	-22.75	517.56	15.25	-5.90	34.81
8.45	-21.92	480.49	29.65	8.50	72.25
157.78	127.41	16233.31	24.44	3.29	10.82
-7.79	-38.16	1456.19	13.74	-7.41	54.91
-14.23	-44.60	1989.16	22.65	1.50	2.25
$\bar{X}$=30.37		20676.68	$\bar{Y}$=21.15		175.04

$$\sigma = \sqrt{\frac{\phi(X-\bar{X})^2}{N}}$$

$$= \sqrt{\frac{\text{[illegible]}}{5}} = 64.31\%$$

$$\text{C.V.} = \frac{\sigma}{\bar{X}} \times 100 = \frac{\text{[illegible]}}{\text{[illegible]}} \times 100 = 211.76\%$$

$$\sigma = \sqrt{\frac{\phi(Y-\bar{Y})^2}{N}}$$

$$= \sqrt{\frac{\text{[illegible]}}{5}} = 5.92\%$$

$$\text{C.V.} = \frac{\sigma}{\bar{Y}} \times 100 = \frac{\text{[illegible]}}{\text{[illegible]}} \times 100 = 27.99\%$$

Appendix-13

Calculation of C.V of Current Ratio and Quick Ratio

X	$(X-\bar{X})$	$(X-\bar{X})^2$	Y	$(Y-\bar{Y})$	$(Y-\bar{Y})^2$
1.38	0.32	0.10	1.09	0.36	0.13
1.33	0.27	0.07	0.99	0.26	0.07
1.01	-0.05	0.00	0.75	0.02	0.00
0.75	-0.31	0.10	0.41	-0.32	0.10
0.83	0.23	0.05	0.42	-0.31	0.10
$\bar{X}$=1.06		0.32	$\bar{Y}$=0.73		0.40

$$\sigma = \sqrt{\frac{\phi(X-\bar{X})^2}{N}}$$

$$= \sqrt{\frac{\text{[illegible]}}{5}} = 0.25\%$$

$$\text{C.V.} = \frac{\sigma}{\bar{X}} \times 100 = \frac{\text{[illegible]}}{\text{[illegible]}} \times 100 = 23.58\%$$

$$\sigma = \sqrt{\frac{\phi(Y-\bar{Y})^2}{N}}$$

$$= \sqrt{\frac{\text{[illegible]}}{5}} = 0.28\%$$

$$\text{C.V.} = \frac{\sigma}{\bar{Y}} \times 100 = \frac{\text{[illegible]}}{\text{[illegible]}} \times 100 = 38.36\%$$

Appendix-14

Calculation of C.V of Inventory Conversion Period and Receivables Collection Period

X	$(X-\bar{X})$	$(X-\bar{X})^2$	Y	$(Y-\bar{Y})$	$(Y-\bar{Y})^2$
36	-16	256	18	-10	100
44	-8	64	23	-5	25
56	2	4	38	10	100
64	12	144	35	7	49
60	8	64	27	-1	1
$\bar{X}$=52		532	$\bar{Y}$=28		275

$$\sigma = \sqrt{\frac{\phi(X-\bar{X})^2}{N}} \qquad \sigma = \sqrt{\frac{\phi(Y-\bar{Y})^2}{N}}$$

$$= \sqrt{\frac{532}{5}} = 10.32\% \qquad = \sqrt{\frac{275}{5}} = 7.42\%$$

$$C.V. = \frac{\sigma}{\bar{X}} \times 100 = \frac{10.32}{52} \times 100 = 19.85\% \qquad C.V. = \frac{\sigma}{\bar{Y}} \times 100 = \frac{7.42}{28} \times 100 = 26.50\%$$

Appendix-15

Calculation of C.V of Payable Deferral Period and Cash Conversion Cycle

X	$(X-\bar{X})$	$(X-\bar{X})^2$	Y	$(Y-\bar{Y})$	$(Y-\bar{Y})^2$
108	-16	256	-54	-102	10404
123	-1	1	-77	-125	15625
144	20	400	-50	-98	9604
139	15	225	-40	-88	7744
105	-19	361	-18	-66	4356
$\bar{X}$=124		1243	$\bar{Y}$=-48		47733

$$\sigma = \sqrt{\frac{\phi(X-\bar{X})^2}{N}} \qquad \sigma = \sqrt{\frac{\phi(Y-\bar{Y})^2}{N}}$$

$$= \sqrt{\frac{249}{5}} = 15.77\% \qquad = \sqrt{\frac{47733}{5}} = 97.71\%$$

$$C.V. = \frac{\sigma}{\bar{X}} \times 100 = \frac{15.77}{124} \times 100 = 12.72\% \qquad C.V. = \frac{\sigma}{\bar{Y}} \times 100 = \frac{97.71}{-48} \times 100 = -203.56\%$$

Appendix-16

Calculation of C.V of Net Profit Margin And Gross Profit Margin

X	$(X-\bar{X})$	$(X-\bar{X})^2$	Y	$(Y-\bar{Y})$	$(Y-\bar{Y})^2$
7.49	-4.62	21.34	33.89	1.33	1.77
9.23	-2.88	8.29	37.55	2.33	5.43
12.76	0.65	0.42	37.69	2.47	6.10
16.60	4.49	20.16	36.13	0.91	0.83
14.47	2.36	5.57	30.83	-4.39	19.27
$\bar{X}$=12.11		55.78	$\bar{Y}$=35.22		33.40

|

$$\exists = \sqrt{\frac{\phi(X-\bar{X})^2}{N}}$$

$$= \sqrt{\frac{\text{Ξ}\text{Ξ}\text{H}\text{H}\text{P}}{5}} = 3.34\%$$

$$\text{C.V.} = \frac{\exists}{\bar{X}} \times 100 = \frac{\text{M}\text{M}\text{M}\text{N}}{\text{K}\Lambda\text{H}\text{K}\text{K}} \times 100 = 27.58\%$$

$$\exists = \sqrt{\frac{\phi(Y-\bar{Y})^2}{N}}$$

$$= \sqrt{\frac{\text{M}\text{M}\text{M}\text{N}\text{N}}{5}} = 2.58\%$$

$$\text{C.V.} = \frac{\exists}{\bar{Y}} \times 100 = \frac{\Lambda\text{E}\text{E}\text{P}}{\text{M}\text{E}\text{H}\Lambda\Lambda} \times 100 = 7.33\%$$

Appendix-17

Calculation of C.V of Return on Total Assets and Return on Working Capital

X	$(X-\bar{X})$	$(X-\bar{X})^2$	Y	$(Y-\bar{Y})$	$(Y-\bar{Y})^2$
11.88	-7.20	51.84	150.79	-12.49	156
14.98	-4.10	16.81	19.44	-8.84	78.15
17.21	-1.87	3.50	21.22	-7.06	49.84
24.62	5.54	30.69	42.68	14.40	207.36
26.70	7.62	58.06	42.25	13.97	195.16
$\bar{X}$=19.08		160.90	$\bar{Y}$=28.28		686.51

|

$$\exists = \sqrt{\frac{\phi(X-\bar{X})^2}{N}}$$

$$= \sqrt{\frac{\text{K}\text{O}\text{I}\text{E}\text{E}\text{I}}{5}} = 5.67\%$$

$$\text{C.V.} = \frac{\exists}{\bar{X}} \times 100 = \frac{\Xi\text{H}\text{O}\text{T}}{\text{K}\Sigma\text{H}\text{P}} \times 100 = 29.72\%$$

$$\exists = \sqrt{\frac{\phi(Y-\bar{Y})^2}{N}}$$

$$= \sqrt{\frac{\text{O}\text{P}\text{O}\text{E}\text{E}\text{K}}{5}} = 11.72\%$$

$$\text{C.V.} = \frac{\exists}{\bar{Y}} \times 100 = \frac{\text{K}\text{K}\text{H}\text{H}\Lambda}{\Lambda\text{P}\text{H}\Lambda\text{P}} \times 100 = 41.44\%$$

Appendix-18

Calculation of C.V of Operating Expenses Ratio

X	$(X-\bar{X})$	$(X-\bar{X})^2$
90.61	3.55	94.16
89.10	2.04	4.16
85.64	-1.42	2.02
84.14	-2.92	8.53
85.83	-1.23	1.51
$\bar{X}$=87.06		28.82

$$\sigma = \sqrt{\frac{\Sigma(X-\bar{X})^2}{N}}$$

$$= \sqrt{\frac{28.82}{5}} = 2.40\%$$

$$\text{C.V.} = \frac{\sigma}{\bar{X}} \times 100 = \frac{2.40}{87.06} \times 100 = 2.76\%$$

Appendix-19
Calculation of Correlation Between CA and TA

(RS in Million)

F/Y	CA(X)	TA(Y)	dx=X-891.41	dy=Y-1098.94	dx^2	dy^2	dxdy
2060/061	589.89	784.88	-301.52	-314.06	90914.31	98633.68	94695.37
2061/062	724.24	939.71	-167.17	-159.23	27945.81	25354.19	26618.48
2062/063	891.41	1098.94	0	0	0	0	0
2063/064	557.96	967.15	-333.45	-131.79	111188.90	17368.60	43945.38
2064/065	622.67	985.25	-268.74	-113.69	72221.19	12925.42	30553.05
N=5	3386.17	4775.93	-1070.88	-718.77	302270.21	154281.89	195812.28

$$r = \frac{N\phi\, dx.dy - \phi dx.\ \phi dy}{\sqrt{N\phi dx^2 - \phi(dx)^2}\ \sqrt{N\phi dy^2 - \phi(dy)^2}}$$

$$= \frac{5\times 195812.28 - (\text{illegible})}{\sqrt{5\times \text{illegible} - (-1070.88)^2}\ \sqrt{5\times \text{illegible} - (-718.77)^2}} = 0.69$$

$$PE = \frac{0.6745\ (1-r^2)}{\sqrt{N}} = \frac{0.6745\ (1-0.69^2)}{\sqrt{5}} = 0.16 \text{ ; } 6 \text{ P.E} = 6\times 0.16 = 0.96$$

Appendix-20

Calculation of Correlation Between CA and CL

(RS in Million)

F/Y	CA(X)	CL(Y)	dx=X-891.41	dy=Y-882.02	dx^2	dy^2	dxdy
2060/061	589.89	426.45	-301.52	-455.57	90914.31	207544.02	137363.47
2061/062	724.24	543.71	-167.17	-338.31	27945.81	114453.66	56555.28
2062/063	891.41	882.02	0	0	0	0	0
2063/064	557.96	742.23	-333.45	-139.79	111188.90	19541.24	46612.98
2064/065	622.67	750.47	-268.74	-131.55	72221.19	17305.40	35352.75
N=5	3386.17	3344.88	-1070.88	-1065.22	302270.21	358844.32	275884.48

$$r = \frac{N\phi\, dx.dy - \phi dx.\ \phi dy}{\sqrt{N\phi dx^2 - \phi(dx)^2}\ \sqrt{N\phi dy^2 - \phi(dy)^2}}$$

$$= \frac{5\times 275884.48 - (\text{illegible})}{\sqrt{5\times \text{illegible} - (-1070.88)^2}\ \sqrt{5\times \text{illegible} - (-1065.22)^2}} = 0.49$$

$$PE = \frac{0.6745\ (1-r^2)}{\sqrt{N}} = \frac{0.6745\ (1-0.49^2)}{\sqrt{5}} = 0.23 \text{ ; } 6 \text{ P.E} = 6\times 0.23 = 1.38$$

Appendix-21

Calculation of Correlation Between inventory(I) and CA

(RS in Million)

F/Y	I(X)	CA(Y)	dx=X-229.79	dy=Y-891.41	dx^2	dy^2	dxdy
2060/061	126.11	589.89	-103.65	-301.52	10743.32	90914.31	31252.55
2061/062	184.22	724.24	-40.54	-167.17	1643.49	27945.81	6777.07
2062/063	229.76	891.41	0	0	0	0	0
2063/064	256.17	557.96	26.41	-333.45	697.49	111188.90	-8806.41
2064/065	304.33	622.67	74.57	-268.74	5560.68	72221.19	-20039.34
N=5	1105.59	3386.17	-43.21	-1070.88	18644.98	302270.21	9183.27

$$r = \frac{N\phi\, dx.dy - \phi dx.\ \phi dy}{\sqrt{N\phi dx^2 - \phi(dx)^2}\ \sqrt{N\phi dy^2 - \phi(dy)^2}}$$

$$= \frac{5\times 9183.27 - (\text{illegible})}{\sqrt{5\times \text{illegible} - (-43.21)^2}\ \sqrt{5\times \text{illegible} - (-1070.88)^2}} = 0.00$$

$$(PE) = \frac{0.6745\ (1-r^2)}{\sqrt{N}} = \frac{0.6745\ (1-(-0.00)^2)}{\sqrt{5}} = 0.30 \text{ ; 6 P.E} = 6\times 0.3 = 1.8$$

Appendix-22

Calculation of Correlation Between Debtors and CA

(RS in Million)

F/Y	Debtor(X)	CA(X)	dx=X-157.72	dy=Y-891.41	dx^2	dy^2	dxdy
2060/061	64.78	589.89	-92.94	-301.52	8637.84	90914.31	28023.27
2061/062	97.06	724.24	-60.66	-167.17	3678.64	27945.81	10140.53
2062/063	157.72	891.41	0	0	0	0	0
2063/064	138.32	557.96	-19.40	-333.45	376.36	111188.90	6468.93
2064/065	136.45	622.67	-21.27	-268.74	452.41	72221.19	5716.10
N=5	594.33	3386.17	-194.27	-1070.88	13146.25	302270.21	50348.83

$$r = \frac{N\phi\, dx.dy - \phi dx.\ \phi dy}{\sqrt{N\phi dx^2 - \phi(dx)^2}\ \sqrt{N\phi dy^2 - \phi(dy)^2}}$$

$$= \frac{5\times 50348.83 - (\text{illegible})}{\sqrt{5\times \text{illegible} - (-194.27)^2}\ \sqrt{5\times \text{illegible} - (-1070.88)^2}} = 0.43$$

$$(PE) = \frac{0.6745\ (1-r^2)}{\sqrt{N}} = \frac{0.6745\ (1-0.43^2)}{\sqrt{5}} = 0.25 \text{ ; 6 P.E} = 6\times 0.25 = 1.50$$

Appendix-23
Calculation of Correlation Between CBB and CA

(RS in Million)

F/Y	CBB (X)	CA(Y)	dx=X-443.31	dy=Y-891.41	dx^2	dy^2	dxdy
2060/061	317.40	589.89	-125.90	-301.52	15850.81	90914.31	37961.37
2061/062	391.53	724.24	-51.78	-167.17	2681.17	27945.81	8656.06
2062/063	443.31	891.41	0	0	0	0	0
2063/064	59.02	557.96	-384.29	-333.45	147678.80	111188.90	128141.50
2064/065	101.60	622.67	-341.71	-268.74	116765.72	72221.19	91831.15
N=5	1312.87	3386.17	-903.68	-1070.88	282976.50	302270.21	266590.08

$$r = \frac{N\phi\, dx.dy - \phi dx.\ \phi dy}{\sqrt{N\phi dx^2 - \phi(dx)^2}\ \sqrt{N\phi dy^2 - \phi(dy)^2}}$$

$$= \frac{5\times 266590.08 - (\text{illegible})}{\sqrt{5\times \text{illegible} - (-903.68)^2}\ \sqrt{5\times \text{illegible} - (-1070.88)^2}} = 0.78$$

$$(PE) = \frac{0.6745\ (1-r^2)}{\sqrt{N}} = \frac{0.6745\ (1-0.78^2)}{\sqrt{5}} = 0.12\ ;\ 6\ P.E = 6\times 012 = 0.72$$

Appendix-24

Calculation of Correlation Between LAD and CA

(RS in Million)

F/Y	LAD (X)	CA(Y)	dx=X-60.62	dy=Y-891.41	dx^2	dy^2	dxdy
2060/061	81.60	589.89	20.98	-301.52	440.16	90914.31	-6325.89
2061/062	51.43	724.24	-9.19	-167.17	84.46	27945.81	1536.29
2062/063	60.62	891.41	0	0	0	0	0
2063/064	104.45	557.96	43.83	-333.45	1921.07	111188.90	-14615.11
2064/065	80.29	622.67	19.67	-268.74	386.91	72221.19	-5286.12
N=5	378.39	3386.17	75.29	-1070.88	2832.60	302270.21	-24690.83

$$r = \frac{N\phi\, dx.dy - \phi dx.\ \phi dy}{\sqrt{N\phi dx^2 - \phi(dx)^2}\ \sqrt{N\phi dy^2 - \phi(dy)^2}}$$

$$= = \frac{(5\times -24690.83) - (\text{ΓΕΗΑΣ}\times \text{ΖΚΙΠΤΗΡΡΑ}}{\sqrt{5\times \Lambda\text{PMNKOI} - (75.29)^2}\ \sqrt{5\times \text{MIΛΛΠΤΗΑΚ} - (-1070.88)^2}} = -0.77$$

$$(PE) = \frac{0.6745\ (1-r^2)}{\sqrt{N}} = \frac{0.6745\ (1-(-0.77)^2)}{\sqrt{5}} = 0.12\ ;\ 6\ P.E = 6\times 012 = 0.72$$

Appendix-25

Calculation of Correlation Between WC and Sales(S)

(RS in Million)

F/Y	WC(X)	S(Y)	dx=X-891.41	dy=Y-1481.56	dx^2	dy^2	dxdy
2060/061	589.89	1244.73	-301.52	-236.83	90914.31	56088.45	71408.98
2061/062	724.24	1524.90	-167.17	43.34	27945.81	1878.36	-7245.15
2062/063	891.41	1481.56	0	0	0	0	0
2063/064	557.96	1434.94	-333.45	-46.62	111188.90	2173.42	15545.44
2064/065	622.67	1818.53	-268.74	336.97	72221.19	113548.78	-90557.32
N=5	3386.17	7504.66	-1070.88	96.86	302270.21	173689.01	-10848.05

$$r = \frac{N\phi\ dx.dy - \phi dx.\ \phi dy}{\sqrt{N\phi dx^2 - \phi(dx)^2}\ \sqrt{N\phi dy^2 - \phi(dy)^2}}$$

$$= \frac{(5\times -10848.05) - (\text{ΖΚΙΠΤΗΡΡ}\times \text{ΣΟΗΡΟΑ}}{\sqrt{5\times \text{MIΛΛΠΤΗΑΚ} - (-1070.88)^2}\ \sqrt{5\times \text{KΠΜΟΡΣΗΙΚ} - (96.86)^2}} = 0.09$$

$$(PE) = \frac{0.6745\ (1-r^2)}{\sqrt{N}} = \frac{0.6745\ (1-0.09^2)}{\sqrt{5}} = 0.30\ ;\ 6\ P.E = 6\times 0.30 = 1.80$$

Appendix-26

Calculation of Correlation Between Inventory and Sales

(RS in Million)

F/Y	I(X)	S(Y)	dx=X-229.76	dy=Y-1481.56	dx^2	dy^2	dxdy
2060/061	126.11	1244.73	-103.65	-236.83	10743.32	56088.45	24547.43
2061/062	184.22	1524.90	-40.54	43.34	1643.49	1878.36	-1757.00
2062/063	229.76	1481.56	0	0	0	0	0
2063/064	256.17	1434.94	26.41	-46.62	697.49	2173.42	-1231.23
2064/065	304.33	1818.53	74.57	336.97	5560.68	113548.78	25127.85
N=5	1105.59	7504.66	-43.21	96.86	18644.98	173689.01	46687.05

$$r = \frac{N\phi\, dx.dy - \phi dx.\ \phi dy}{\sqrt{N\phi dx^2 - \phi(dx)^2}\ \sqrt{N\phi dy^2 - \phi(dy)^2}}$$

$$= \frac{(5\times 46687.05) - (\text{illegible})}{\sqrt{5\times \text{illegible} - (-43.21)^2}\ \sqrt{5\times \text{illegible} - (96.86)^2}} = 0.85$$

$$(PE) = \frac{0.6745\ (1-r^2)}{\sqrt{N}} = \frac{0.6745\ (1-0.85^2)}{\sqrt{5}} = 0.08 \text{ ; 6 P.E} = 6\times 0.08 = 0.48$$

Appendix-27

Calculation of Correlation Between Debtor and Sales

(RS in Million)

F/Y	Debtor (X)	Sales (Y)	dx=X-157.72	dy=Y-1481.50	dx^2	dy^2	dxdy
2060/061	64.78	1244.73	-92.94	-236.83	8637.84	56088.45	22010.98
2061/062	97.06	1524.90	-60.66	43.34	3678.64	1878.36	-2629.00
2062/063	157.72	1481.56	0	0	0	0	0
2063/064	138.32	1434.94	-19.40	-46.62	376.36	2173.42	904.43
2064/065	136.45	1818.53	-21.27	336.97	452.41	113548.78	-7167.35
N=5	594.33	7504.66	-194.27	96.86	13146.25	173689.01	13119.06

$$r = \frac{N\phi\, dx.dy - \phi dx.\ \phi dy}{\sqrt{N\phi dx^2 - \phi(dx)^2}\ \sqrt{N\phi dy^2 - \phi(dy)^2}}$$

$$= \frac{(5\times 13119.06) - (\text{illegible})}{\sqrt{5\times \text{illegible} - (-194.27)^2}\ \sqrt{5\times \text{illegible} - (96.86)^2}} = 0.54$$

$$(PE) = \frac{0.6745\ (1-r^2)}{\sqrt{N}} = \frac{0.6745\ (1-0.54^2)}{\sqrt{5}} = 0.21 \text{ ; 6 P.E} = 6\times 0.21 = 1.26$$

Appendix-28

Calculation of Correlation Between CBB and Sales

(RS in Million)

F/Y	CBB (X)	Sales (Y)	dx=X-443.31	dy=Y-1481.56	dx^2	dy^2	dxdy
2060/061	317.40	1244.73	-125.90	-236.83	15850.81	56088.45	29816.90
2061/062	391.53	1524.90	-51.78	43.34	2681.17	1878.36	-2244.15
2062/063	443.31	1481.56	0	0	0	0	0
2063/064	59.02	1434.94	-384.29	-46.62	147678.80	2173.42	17915.60
2064/065	101.60	1818.53	-341.71	336.97	116765.72	113548.78	-115146.02
N=5	1312.87	7504.66	-903.68	96.86	282976.50	173689.01	-69657.67

$$r = \frac{N\phi\, dx.dy - \phi dx.\, \phi dy}{\sqrt{N\phi dx^2 - \phi(dx)^2}\ \sqrt{N\phi dy^2 - \phi(dy)^2}}$$

$$= \frac{(5\times -69657.67) - (\text{Z}\Sigma\text{I M}\Phi\text{P}\times \Sigma\text{OHPOA}}{\sqrt{5\times \Lambda\text{PA}\Sigma\Gamma\text{OEEI}} - (-903.68)^2\ \sqrt{5\times \text{K}\Gamma\text{M}\Phi\text{P}\Sigma\text{HIK}} - (96.86)^2} = -0.36$$

$$(PE) = \frac{0.6745\ (1-r^2)}{\sqrt{N}} = \frac{0.6745\ (1-(-0.36)^2)}{\sqrt{5}} = 0.26\ ;\ 6\ P.E = 6\times 0.26 = 1.56$$

Appendix-29

Calculation of Correlation Between LAD and Sales

(RS in Million)

F/Y	LAD (X)	Sales (Y)	dx=X-60.62	dy=Y-1481.50	dx^2	dy^2	dxdy
2060/061	81.60	1244.73	20.98	-236.83	440.16	56088.45	-4947.38
2061/062	51.43	1524.90	-9.19	43.34	84.46	1878.36	-398.29
2062/063	60.62	1481.56	0	0	0	0	0
2063/064	104.45	1434.94	43.83	-46.62	1921.07	2173.42	-2043.35
2064/065	80.29	1818.53	19.67	336.97	386.91	113548.78	6628.20
N=5	378.39	7504.66	75.29	96.86	2832.60	173689.01	-760.82

$$r = \frac{N\phi\, dx.dy - \phi dx.\, \phi dy}{\sqrt{N\phi dx^2 - \phi(dx)^2}\ \sqrt{N\phi dy^2 - \phi(dy)^2}}$$

$$= \frac{(5\times -760.82) - (\text{ZI}\Gamma\text{EHA}\Sigma\times \Sigma\text{OHPOA}}{\sqrt{5\times \Lambda\text{PMA}\Phi\text{OI}} - (-75.29)^2\ \sqrt{5\times \text{K}\Gamma\text{M}\Phi\text{P}\Sigma\text{HIK}} - (96.86)^2} = -0.13$$

$$(PE) = \frac{0.6745\ (1-r^2)}{\sqrt{N}} = \frac{0.6745\ (1-(-0.13)^2)}{\sqrt{5}} = 0.30\ ;\ 6\ P.E = 6\times 0.30 = 1.80$$

Appendix-30

Calculation of Correlation Between WC and Production

(RS in Million)

F/Y	WC(X)	Production (Y)	dx=X-891.41	dy=Y-956.15	dx^2	dy^2	dxdy
2060/061	589.89	846.80	-301.52	-109.35	90914.31	11957.42	32971.21
2061/062	724.24	980.16	-167.17	24.01	27945.81	576.48	-4013.75
2062/063	891.41	956.15	0	0	0	0	0

2063/064	557.96	982.76	-333.45	26.61	111188.90	708.09	-8873.10
2064/065	622.67	1259.50	-268.74	303.35	72221.19	92.21.22	-81522.28
N=5	3386.17	5025.37	-1070.88	244.62	302270.21	105263.21	-61437.92

$$r = \frac{N\phi\, dx.dy - \phi dx.\, \phi dy}{\sqrt{N\phi dx^2 - \phi(dx)^2}\ \sqrt{N\phi dy^2 - \phi(dy)^2}}$$

$$= \frac{(5\times -61437.92) - (\text{illegible})}{\sqrt{5\times \text{illegible} - (-1070.88)^2}\ \sqrt{5\times \text{illegible} - (244.62)^2}} = -0.11$$

$$(PE) = \frac{0.6745\ (1-r^2)}{\sqrt{N}} = \frac{0.6745\ (1-(-0.11)^2)}{\sqrt{5}} = 0.30\ ;\ 6\ P.E = 6\times 0.30 = 1.80$$

Appendix-31

Calculation of Correlation Between Inventory and Production

(RS in Million)

F/Y	I(X)	Production (Y)	dx=X-229.76	dy=Y-956.15	dx^2	dy^2	dxdy
2060/061	126.11	846.80	-103.65	-109.35	10743.32	11957.42	11334.13
2061/062	184.22	980.16	-40.54	24.01	1643.49	576.48	-973.37
2062/063	229.76	956.15	0	0	0	0	0
2063/064	256.17	982.76	26.41	26.61	697.49	708.09	702.77
2064/065	304.33	1259.50	74.57	303.35	5560.68	92.21.22	22620.81
N=5	1105.59	5025.37	-43.21	244.62	18644.98	105263.21	33684.34

$$r = \frac{N\phi\, dx.dy - \phi dx.\, \phi dy}{\sqrt{N\phi dx^2 - \phi(dx)^2}\ \sqrt{N\phi dy^2 - \phi(dy)^2}}$$

$$= \frac{(5\times 33684.34) - (\text{illegible})}{\sqrt{5\times \text{illegible} - (-43.21)^2}\ \sqrt{5\times \text{illegible} - (244.62)^2}} = 0.87$$

$$(PE) = \frac{0.6745\ (1-r^2)}{\sqrt{N}} = \frac{0.6745\ (1-0.87^2)}{\sqrt{5}} = 0.07\ ;\ 6\ P.E = 6\times 016 = 0.42$$

Appendix-32

Calculation of Correlation Between Debtors and Production

(RS in Million)

F/Y	Debtor (X)	Production (Y)	dx=X-157.72	dy=Y-956.15	dx^2	dy^2	dxdy
2060/061	64.78	846.80	-92.94	-109.35	8637.84	11957.42	10162.99

2061/062	97.06	980.16	-60.66	24.01	3678.64	576.48	-1456.45
2062/063	157.72	956.15	0	0	0	0	0
2063/064	138.32	982.76	-19.40	26.61	376.36	708.09	-516.23
2064/065	136.45	1259.50	-21.27	303.35	452.41	92.21.22	-6452.25
N=5	594.33	5025.37	-194.27	244.62	13146.25	105263.21	1738.06

$$r = \frac{N\phi\, dx.dy - \phi dx.\ \phi dy}{\sqrt{N\phi dx^2 - \phi(dx)^2}\ \sqrt{N\phi dy^2 - \phi(dy)^2}}$$

$$= \frac{(5\times 1738.06) - (\text{illegible})}{\sqrt{5\times \text{illegible} - (-194.27)^2}\ \sqrt{5\times \text{illegible} - (244.62)^2}} = 0.49$$

$$(PE) = \frac{0.6745\ (1-r^2)}{\sqrt{N}} = \frac{0.6745\ (1-0.49^2)}{\sqrt{5}} = 0.23\ ;\ 6\ P.E = 6\times 0.23 = 1.38$$

Appendix-33

Calculation of Correlation Between CBB and Production

(RS in Million)

F/Y	CBB (X)	Production(Y)	dx=X-443.31	dy=Y-956.15	dx^2	dy^2	dxdy
2060/061	317.40	846.80	-125.90	-109.35	15850.81	11957.42	13767.17
2061/062	391.53	980.16	-51.78	24.01	2681.17	576.48	-1243.24
2062/063	443.31	956.15	0	0	0	0	0
2063/064	59.02	982.76	-384.29	26.61	147678.80	708.09	-10225.96
2064/065	101.60	1259.50	-341.71	303.35	116765.72	92.21.22	-103657.73
N=5	1312.87	5025.37	-903.68	244.62	282976.50	105263.21	-101359.76

$$r = \frac{N\phi\, dx.dy - \phi dx.\ \phi dy}{\sqrt{N\phi dx^2 - \phi(dx)^2}\ \sqrt{N\phi dy^2 - \phi(dy)^2}}$$

$$= \frac{(5\times -101359.76) - (\text{illegible})}{\sqrt{5\times \text{illegible} - (-903.68)^2}\ \sqrt{5\times \text{illegible} - (244.62)^2}} = -0.54$$

$$(PE) = \frac{0.6745\ (1-r^2)}{\sqrt{N}} = \frac{0.6745\ (1-(-0.54)^2)}{\sqrt{5}} = 0.21\ ;\ 6\ P.E = 6\times 0.21 = 1.28$$

Appendix-34

Calculation of Correlation Between LAD and Production

(RS in Million)

F/Y	LAD(X)	Production (Y)	dx=X-60.62	dy=Y-956.15	dx^2	dy^2	dxdy
2060/061	81.60	846.80	20.98	-109.35	440.16	11957.42	-2294.16

2061/062	51.43	980.16	-9.19	24.01	84.46	576.48	-220.65
2062/063	60.62	956.15	0	0	0	0	0
2063/064	104.45	982.76	43.83	26.61	1921.07	708.09	1166.32
2064/065	80.29	1259.50	19.67	303.35	386.91	92.21.22	5966.89
N=5	378.39	5025.37	75.29		2832.60	105263.21	4618.40

$$r = \frac{N\phi\ dx.dy - \phi dx.\ \phi dy}{\sqrt{N\phi dx^2 - \phi(dx)^2}\ \sqrt{N\phi dy^2 - \phi(dy)^2}}$$

$$= \frac{(5\times 4618.40) - (\Gamma\Xi H\Lambda\Sigma\times\ \Lambda N N H\Theta\Lambda\Lambda}{\sqrt{5\times\Lambda PM\Lambda H\Theta I\ - (75.29)^2}\ \sqrt{5\times KI\ \Xi\Lambda O M\Lambda\Lambda K - (244.62)^2}} = 0.07$$

$$=(PE) = \frac{0.6745\ (1-r^2)}{\sqrt{N}} = \frac{0.6745\ (1-0.07^2)}{\sqrt{5}} = 0.30\ ;\ 6\ P.E = 6\times 0.30 = 1.80$$

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