CHAPTER I
INTRODUCTION

1.1   Background of the Study

Nepal is one of the least developed countries in the world lying as sandwiched between the two big countries, China and India. Minimum physical facilities that are necessary for human beings are still seem far from the access of poor people. The annual per capita Gross Domestic Product (GDP) of Nepal is estimate to be just 4.6%. Nepalese economy is mainly base on agriculture, 81% of the total active population is involved in this sector, which contributed about 39% to Gross Domestic Product at current price. Recently, the agriculture is being slowly replacing by other sectors also. Estimate is involved as production labor. (*Nepal Chamber of Commerce, 2004*)

Development of the country depends on the economic development of a country and the economic development of a country depends upon industrial development of country. Industrial development created employment opportunities and earn foreign currency by exporting the goods. It also utilizes the idle resources as well as idle capacity of the country. In the present situation, industrialization has proved itself the most powerful instrument to up-lift the economic development of the country.

Nepal had a late start in develop. Its pace of industrialization has been slow. The history of industrial growth in Nepal can be trace to some 13 to 14 years ago, when Lichivi Kings ruled Nepal. At that period, especially cottage and small industries were established and operate. In 1936 A.D the development of industrial and commercial activities within the country. In 1936 A.D, "The Nepal company act" came into force and various small, medium and large-scale industries were established in Private sector   during the last thirties. In the same year, Biratnagar Jute Mills was established as first joint stock enterprises in the country. After the establishment of Industrial Council in 1936 A.D, Raghupati jute mills, Morang sugar mills, Morang hydro electric Ltd Plywood and bobbin factory, Juddha match factory, Nepal cigarette factory was established thereafter.

The process of planned industrialization started with launching of first five-year plan in 1956 A.D. Ninth year plan has been completed, so far gone some mixed achievement. Current Nepalese economy is rushing with tenth five year plan and has already crossed over half of it session.

Development plans of Nepal have been emphasizing the development industries in both public and private sector. In every plan, the word industrialization has been mentioned too frequently. The reason for emphasizing industrialization is that industrial development would absorb rural under-employed person to these field of production where higher productivity is possible without reducing total agricultural output. Industrialization helps the unemployed and under employed especially from the agricultural sector to find alternative modes of productive activities, thereby reducing automatically the pressure on land. That is why in every development plans of Nepal; the word industrialization has been mentioned too frequently. (*Industrialization in Nepal: 34)*

Manufacturing is the physical or chemical transformation of materials or components into new-products by power-driven machine or hands (*Agrawal, 2005: 113*). In Nepal, various manufacturing companies have been established and developed through government efforts funding from Nepal Industrial Development Corporation to industries. At present there are 28 manufacturing public enterprise in Nepal (*Nepal Stock Exchange*). The manufacturing sector contributes 7.7% GDP to country in 2003/2004 (*Economic survey, 2003/04: 2). The labor survey of 2002 has indicated 10-19% of economically active population was employed in this section. (*Agrawal, 2005:122*)

Public sector enterprise plays an important role in Nepal. They are present in almost all sectors in Nepal. It is necessary to establish public enterprises in order to meet the requirement of economic development of country. The reason behind the development of public enterprise are firstly, private enterprises and managerial competence are so inadequate that there is little hope of augmenting economic growth by relying society on private initiatives and this leads to government intervention directly and actively in the economy in order to achieve its goals. Secondly, pertains to the structural changes that are required. These changes tend to

be so major and the investments needed are so large and long term in their nature that very few private investors will respond adequately (*The Nepalese Journal of Public Administration: 147-150*)

The private companies also plays vital role in industrialization and economic growth of nation. By the help of private companies, the government will be able to reduce investment in public sector, which is incurring continuous loss. Thus, the government has made efforts to create an appropriate and congenial industrial environment for the private sector to play a dominate role in the national industrialization.

The growth in manufacturing establishment has been slow and uneven. In recent years, it is declining by 3213 in 2002 (*Agrawal, 2005:118*). One of the various causes of declining manufacturing industries is improper working capital management of the enterprise. Working capital management refers to the proper management of firm's current assets and current liabilities. It is concerned with all decision and acts that influence the determination of the appropriate level of current assets, namely cash, marketable securities, debtors and stock (inventories) and their efficient use of keeping in a view of liquidity and profitability. It is needed to run the organization day to day in an effective manner.

Working capital is the lifeblood of enterprises .The inefficient management of working capital will lead to loose of profit in short run, but it will lead to downfall of the enterprises in the end. In this sense, the cost of adequate planning in the use of working capital and its satisfactory provision can lead not only to material saving, as well as to economic use of capital but also assert in furthering the ultimate aim of business. (.*Howard, 1998:1*)

1.2   Statement of the Problem

Working capital is a crucial, which is compared as lifeblood of the human beings for the organization. In most of the enterprises, the management of working capital has been misunderstanding as the management of money rather than its efficient

utilization. Efficient working capital management are success to maintain, sound financial position and to compete with market competitors.

Most of the Nepalese industries are still facing the problem of working capital management due to unprofessional labor. Management still focuses their attention on the procurement aspect of working capital but not on the efficient utilization of funds defined in terms of working capital management.

1.3 Objective of the Study

The main objective of this research is to find the working capital management of Unilever Nepal Limited .

The specific objectives of the research can be pointed as follows:

1. To know the working capital policy of Unilever Nepal Limited.
2. To examine the liquidity and profitability position of Unilever Nepal Limited.
3. To examine cash conversion cycle of Unilever Nepal Limited.

1.4 Significance of the Study

This study is concerned to the theoretical, explanation and practical application of working capital management of Unilever Nepal Limited . The study might be valuable for researcher, scholars, students, in relation to working capital management of Unilever Nepal Limited . It can be helpful for financial manager of Unilever Nepal Limited to correct and formulate proper working capital policy. It will be also helpful for other similar nature manufacturing enterprises to determine and manage working capital. It will be useful for government to formulate appropriate economic policy for their enterprises. This study is helpful to carry out further research in this field. It will be helpful for new financial manager or new executive to take decision on efficient working capital management and its component strategically. This study helps to know concern parties and general interested public.

1.5 Focus of the Study

There are various types of assets and liabilities in every business as well as manufacturing organization to run smoothly. One of the most important assets is current assets, which is required to meet the daily or short-term obligation. Working capital is the portion of the total assets, which circulates from one to another form 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 assets and current liabilities, which play vital role for success or failure of business.

This study focuses on the every aspects of the working capital management of Unilever Nepal Limited. This study covers the current asset management policy, current asset utilization, current assets structure and other financial area. Mainly this study focuses on the finding of this enterprises (Unilever Nepal Limited) for achieving goals . Following are the focuses points of the study.

- Profitability and liquidity position of ULN Ltd .
- Analysis of working capital structure and working capital utilization of ULN Ltd.
- Cash Conversion Cycle of ULN Ltd.
- Focus on the relation of working capital variable.

1.6 Limitations of the Study:

Every study does have its periphery and cannot go beyond the limitations. Limitations of the study are point below:

I.   This analysis will be based upon the secondary data, which will be provided from the ULN Ltd and the reliability and validity of these data.

II. This study is concerned with only the working capital aspect of their sample companies whereas there are various aspects of financial management.

III. The study cover the time period of 6 yr's from 2003/2004 to 2008/2009 A.D

IV. This study is done to partial fulfillment of MBS Degree . So it is not a comprehensive study.

1.7   Scheme of the Study

The study has organized in five chapters, namely:

Chapter I:

Chapter one contains the introductory matters, which describe the general background, objective of the study, statement of the problem, significance of the study, focus of the study and limitation of the study.

Chapter II:

Chapter two contains the review of literature relating to the working capital management, which is divided into three sections. The first section deals with theoretical framework, the second section deals with review of journal and research work and the third section deals with review of dissertation.

Chapter III:

Chapter three deals with Research Methodology. It includes research design, population and sampling, sources of data, tools and techniques of analysis and definition of key terms.

Chapter IV:

Chapter four deals with presentation, analysis and interpretation of data to fulfill the objective of the study by presenting, data analyzing and interpretation with the help of various financial and statistical tools and major findings.

Chapter V:

Chapter five covers summary ,conclusion and recommendation. The last chapter summarizes the whole study .Moreover it draws the conclusion and forward the recommendation for the improvement of working capital management of ULN Ltd.

CHAPTER II
REVIEW OF LITERATURE

The purpose of reviewing the literature is to develop some expertise in one's area, to see what new contribution has 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. The present reviewer has made an attempt to explore theoretical framework, the previous articles published and the studies conducted in this field by previous students.

2.1   Conceptual Framework

2.1.1   Meaning of Working Capital:

Working capital management is concern with the problem that arise in the management of current assets and current liabilities .It affects the overall function areas of the firm . So it is the life blood of any firms. Fixed assets and capital are supportive investment for working capital to obtain corporate mission for which optimum mix are needed.

Working capital is the firms investment in short –term assets which is known as current assets. This can be converted into cash within as accounting year in an ordinary operation. The current assets are cash , short-term financing, account receivables and inventories. In simple language working capital presents that portion of total assets which circulates from one to another firm in the ordinary conduct of business.

Working capital policy affects all the functional and other discipline of the firm. At the beginning, working capital management was studied as a part of economics. Working capital management draws heavily from accounting. It makes use of information provided by accounting system. "Working capital management is concerned to carry out the function of working capital. In any enterprise, the working capital function must exist in some form or other ". (*Pradhan, 1986: 11*)
Each firm aims at maximizing the wealth of shareholder. In its endeavor to maximize shareholder's wealth, the firm should earn sufficient return from its

operations. Earning a steady amount of profit requires successful sales activity. The firm has to invest enough funds in current assets for the success of sales activity. Working capital is a firm's investment in short-term assets; they are cash, short-term securities, account receivable and inventories. In simple language, working capital represents that portion of total assets, which circulates from one to another form in the ordinary conduct of business. This idea embraces the recurring translation from cash to inventories to receivables, to cash that forms the conventional chain of business. Simple working capital indicates gross working capital, the firm's total current assets. The net working capital is the difference of 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 a year. The current liabilities are account payable, bills payable, banks overdraft and outstanding expenses. Current liabilities determine the liquidity position of the firm. Working capital management is concerned with the management of current assets and current liabilities in optimum level of the business, which is necessary for day-to-day operation. It is a continuous process for crucial and critical decision of the problem that arises in attempting to manage the current assets and current liabilities.

"Working capital consists broadly at the portion of the assets of the business used in, or related to, current operational and represented at any one time of the operating cycle by such items as account receivables, inventories of raw materials, stores, work-in-progress and finished goods, bills receivables and cash. Assets of this type are relatively temporary nature, since the invested names are normally capable of being recovered or of being change in form with in a short period of time, and the time element of ultimate recovery depends on the manufacturing cycle as well as sales and collection cycle".(*Agrawal;1981:70*)

2.1.2 Concept of Working Capital

Generally, there are two concept of working capital .Gross working capital and Net working capital.

i. Gross Working Capital .(GWC)

The gross working capital refers to the capital investment in current assets and financing of current assets .It includes cash, short-term securities , inventories, and account receivables. This concept is also known as quantitative concept because it does not concern with the current liabilities .GWC indicates the sum of total current assets. "The GWC is represent by current appearing on the assets side of balance sheet".(*Sharma;1967:93*).This concept emphasis that excessive investment in current assets affect the profitability as idle investment yields nothing. From the management view point ,"GWC deals with the problem of managing individual assets in the day to day operation ".(*Kunchha;1998 :68*)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&

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 helps earning more profit through maximum utilization of current assets.

ii. Net Working Capital

The Net working capital refers to the different 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.Net working capital concept is also known as qualitative concept of working capital. This show the liquidity position …"Net working capital can be positive or negative .A positive net working capital occurs when current liabilities are in excess of current assets". (*Pandey:1999*: *810*).Symbolically net working capital is;

Net working capital = Total current assets - Total current liabilities

The net working capital concept helps to determine optimum mixture of short-term capital and long term capital of business organization which is use to analyze the profitability ,liquidity and risk return position of organization ."The net concept is more useful if the purpose is find out liquidity position of enterprise".(*Pradhan ;1986:12*).So short term creditors wants and enterprise to maintain currents assets at a higher level as compared to current liabilities. This concept is more useful to for running business.

2.1.3 Types of Working Capital

Working capital can be classified into two parts: permanent (fixed working capital) and fluctuating working capital. Those two types of working capital, which are necessary for continuous production and sales, are:

I. Permanent Working Capital
II. Variable Working Capital

I. Permanent Working Capital refers to that level of current assets, which is required on a continuous basis over the entire year. A manufacturing concern cannot operate regular production and sales functions in the absence of this portion of working capital. Therefore, a manufacturing concern holds certain minimum amount of working capital to ensure uninterrupted production and sales functions. The firm's expansion of operation capacity has related directly to the working capital.

II. Variable Working Capital represents that portion of working capital, which is required over permanent working capital. Therefore, this portion of working capital depends upon the nature of firm's production, relation between labor and management. The firms, which are seasonal in character in their business, need a large amount of working capital for holding inventory during the peak period. But, as soon as the peak period is over, the working capital becomes idle. Therefore, firms having seasonality in their business find it convenient to meet their working capital requirement by resorting to short-term sources such as

➢ Bank Loan
➢ Public Deposit

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➤ Trade Credit and Other payables

➤ Provision for Taxation

➤ Depreciation provision etc.

FIGURE: 2.1

PERMANENT AND TEMPORARY WORKING CAPITAL

(*Source: Pandey; 1999: 817*)
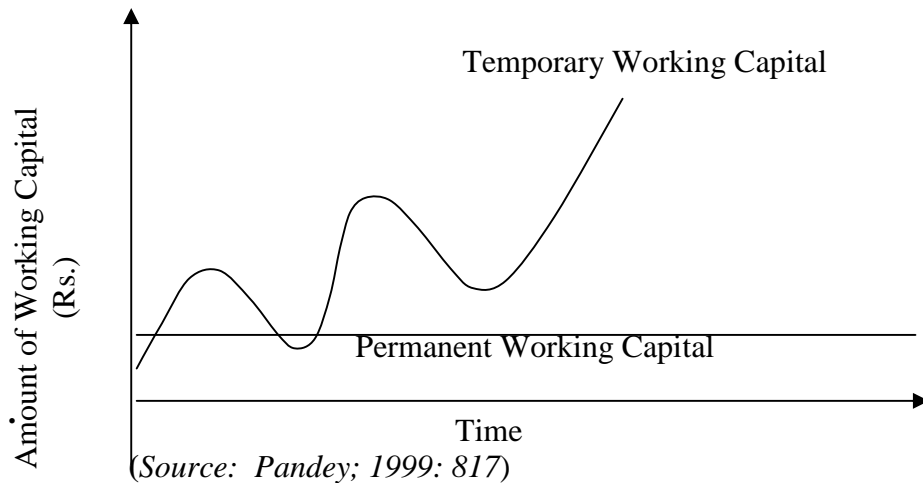
2.1.4.Needs of Working Capital

Most of firm 's aim to maximizing the wealth of shareholder .The firm should earn sufficient return from it's operation .The extend to which profit can be earned naturally depends upon the magnitude of sale among the other things .Specially working capital required to spend on raw material, salary ,wages ,rent electricity, advertisement and other related expenses .The need for working capital can be categorized into the following ways.

2.1.4.1 .Transaction Motive

A business firms holds cash for smooth running of business .The conduct it's ordinary business and making purchase and sales ,working capital needed .In the business , where billings are predictable cash inflow can be scheduled and synchronized with the need for the cash outflow. In a seasonal business more cash may be needed and if firms wants to operate transaction smoothly ,they have to keep inventory of raw materials and finished goods .Generally the

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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 basic a business firm has to manage working capital for transaction motive.

2.1.4.2 . Compensation Balance Motive

The commercial bank performs many function for business firm .Sometime firms pays service charge by direct fee and sometime by maintaining compensation balance .Compensation balance is the advance deduction bank of loan .It represent that the firm agrees to maintain in its checking account with the bank with assurance ,the bank can provide such funds as long term loan.

2.1.4.3. The Precautionary Motive:

Precautionary motive is the need to hold cash and inventories to guard against the risk of in predictable 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 order for goods and some other unexpected emergency .Thus the firm needs the working capital to meet any contingencies in future.

2.1.4.4. The Speculative Motive

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

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

b)   Opportunities of profit making investment.

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 represent 'war chest' or pool of fund which a

firm may draw quickly to meet o short term opportunity ,including acquisition .

2.1.5   Working Capital Policies

Working capital refers to the policies regarding target levels for each category of current assets. Therefore, first in working capital management, firm has to determine how much fund should be invest in working capital in gross concept.

Working capital policy involves setting target levels of current asset and determining the manner in which current asset are to be financed, because credit offers the advantages of speed, flexibility and generally lower costs, most firms use at least some current debt to finance current asset. However, the greater the use of short-term debt, the greater the firm risk exposure. The finance manager is one who must know how much current liabilities shou ld be use to finance current assets.

2.1.5.1. Current Asset Investment Policy

Current asset investment policy refers to the policy regarding the total amount of current assets to be carry to support the given level of sales. There are alternative investment policy which are follows .

I   Fat Cat Policy

This is also known as relaxed current assets investment policy, the firm holds relatively large amount of cash, marketable securities, inventory and receivable to support a given level of sales.

Figure:2.2

Alternative Current Assets Investment Policies
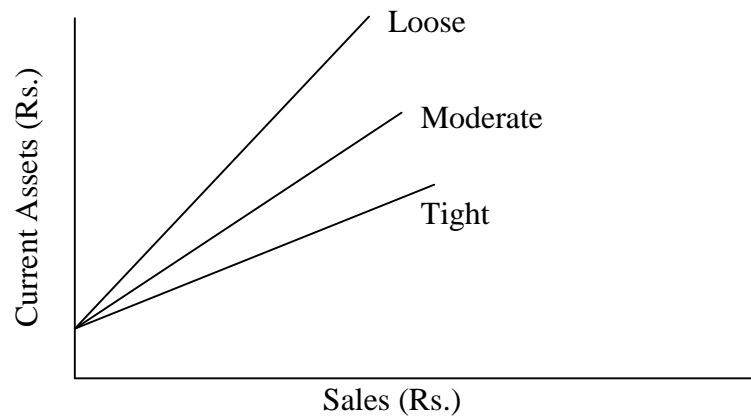
(*Source: Pandey; 1999: 820*)

II. Lean and Mean Policy or restricted Current Assets Investment Policy:

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

III. Moderate Capital Assets Investment Policy.

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

2.1.5.2 Current Assets Financing Policies

The manner in which the permanent and temporary current assets are finance constitutes the firms working capital financing policy. Therefore, the firm must find out the sources of funds to finance its current asset. Under current assets, financing policies there are three types of current assets financing policies, which are as follows:

a. Aggressive Policy: In an aggressive policy, firm finances all of its fixed assets with long-term capital but part of its permanent current assets with short-term credits. In other word ,the firm finance not only temporary current assets but also a

portion of permanent current assets with shirt term financing. Same aggressive firm may even finance a part of there fixed assets with short term financing . Hence this sort of mix financing increase 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 ,return and low liquidity position.

Figure :2.3

Aggressive Finance Policy
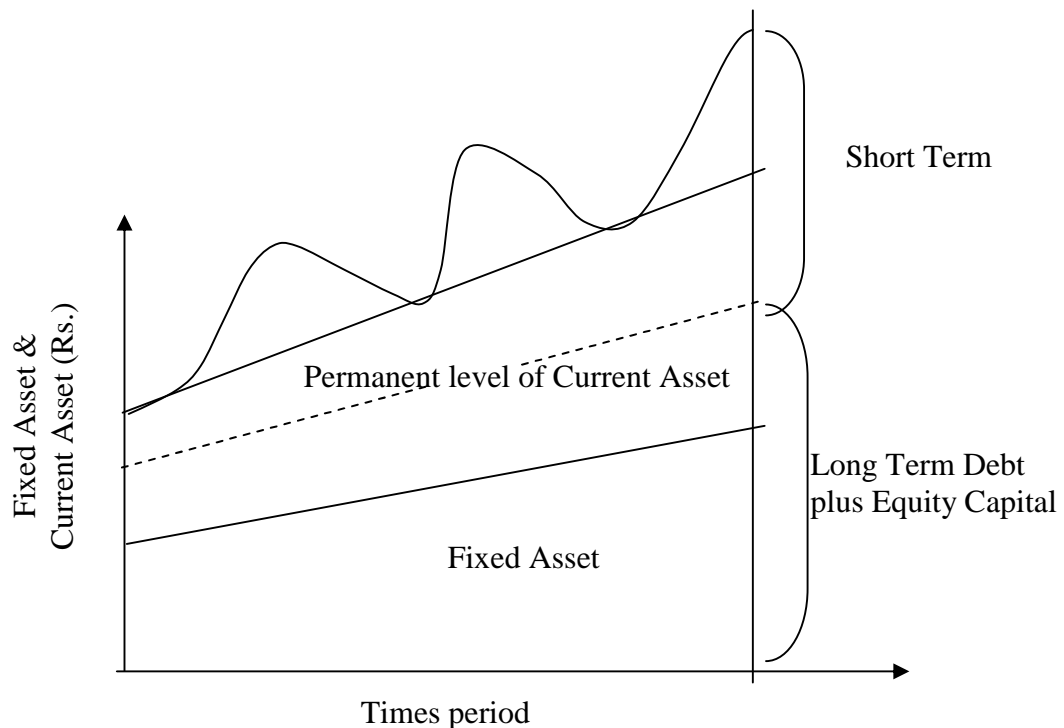
(*Source Pandey;1999:830)*

b. Conservative Policy: In conservation policy, the firm uses long term financing to finance not only fixed and permanent current assets, but also part of the temporary current assets. The risk and return are lower than that of aggressive policy and liquidity position is higher than aggressive. The risk adverse management follows this policy. "Conservative approach refers to a financing mix which is less riskey leading to low profitability and high liquidity , the approach would be to finance all funds required from long term funds "(*Pradhan ;1986: 25)* .

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Figure : 2.4

Conservative Finance Policy
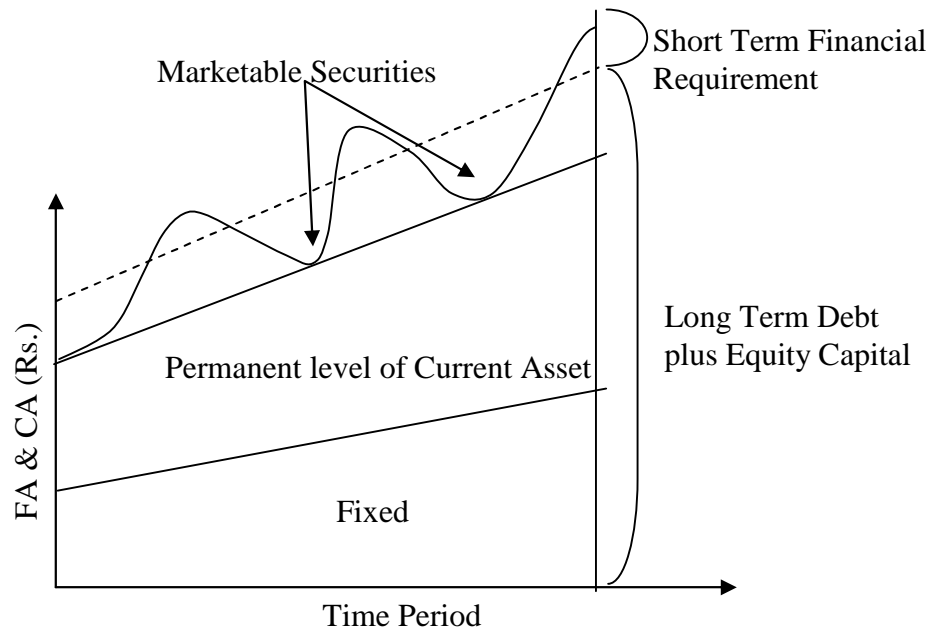
(*Source: Pandey ;1999: 829*)

C. Maturing Matching: It is also known as moderate policy. In this policy, the firm finances both fixed assets and permanent current assets are finance with long-term capital equity plus long-term debt.

This strategy reduces the risk that the firm can be unable to pay off its maturing obligation.This approach tried to achieve trade off between profitability and liquidity with neither too risky nor least risky by finance mix ."It lies in between a low liquidity ,high profitability case and a high –liquidity low profitability case."(*Pradhan:1986:26)*

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Figure: 2.5

Maturing Matching
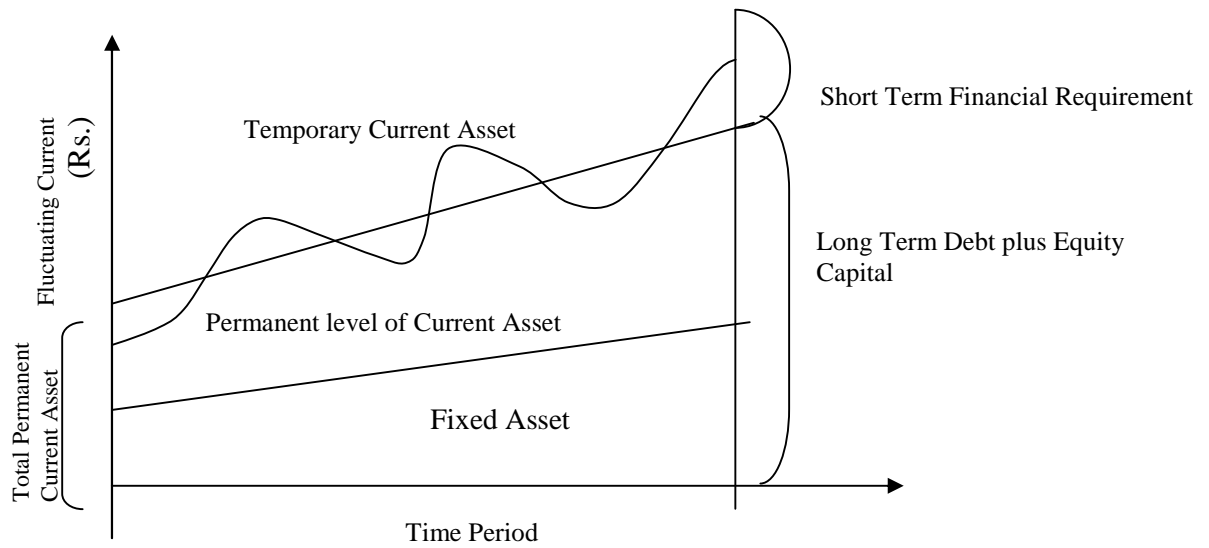
(*Source: Pandey; 1999: 828*)

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

2.1.6. Factor Determining to Working Capital

There are no set rules or formula to determine working capital requirement of the firm. A large number of factors influence working capital needs of firm. All factors are of different importance. In addition, the importance of factors changes for a firm overtime .Therefore, an analysis of relevant factors should be made in order to determine total investment in working capital. The following are the factors, which generally influence the working capital requirement the firms.

Nature and Size of Business

Working capital requirements of a firm are influenced by the nature of its business. Greater the size of the firm, greater will be the need of working capital. Similarly, the trading business needs more working capital than that of service type business.

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Manufacturing Cycle

Working capital requirements of a firm are also influence by the manufacturing cycle. It refers to the time involved to make the finished goods from the raw materials. Longer the manufacturing cycle, larger will be the working capital requirements.

Production Policy

Working capital requirement is also determined by its production policy. The firm producing seasonal goods may locate it sales in different season. This type of fluctuating production policy affects the working capital policy of the firm.

Credit Policy

Credit policy of the firm affects the working capital of the firm. Working capital requirement depends upon terms of sales. Different terms may be followed by different customers according to their credit worthiness. If the firm follows the liberal credit policy then it requires more working capital. If a firm follows tough policy, it requires less working capital.

Availability of Credits

Working capital requirements of a firm are also influenced by credit terms granted by its creditors. If the creditors benefit open-minded credit terms, then the firm will need less working capital. In other words, the firm can get credit facility easily on favorable condition. Thus, it requires less working capital to run the firm otherwise more working capital is require operating the firm smoothly.

Growth and Expansion Activities

Growth and Expansion also affects the working capital requirement of the firm. Higher the volume and expansion activities, the higher the needs of working capital as it cost more and vice versa.

Profit Margin

The profit margin differs from firm to firm. It depends on the nature and quality of the product, marketing management and monopoly power in the market. The high

monopoly and sound marketing management enjoys high profit. Profit is a source of working capital by generating internal fund.

Price Level Change

Price Level Changes also affect the working capital. Generally, a firm requires maintaining the higher amount of working capital if the price level rises. Because the same level of current asset 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 firm.

Operating Efficiency

Operating efficiency is also an 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 lesser amount of working capital and vice-versa.

2.2   Review of Journals and Articles

Beside reviewing of books for conceptual through some previous studies about working capital management are also reviewed in this section. Many published research studies, conducted by different management expert are available in field of working capital management.

Pradhan and Koirala (1982) jointly published an article on "*Working Capital Management in Nepalese Corporations* ". where they have focus on evaluating the working capital position of selected manufacturing and non manufacturing corporation of Nepal. The specific objectives of that study were as following.

〕 To assess the size of investment in each types of current assets.

〕 To study the change in size of investment in each type of current assets over a period of time.

〕 To point out the need to control investment in the size of cash receivable and inventory.

This study stated that the majority of Nepalese corporation was facing the problem of formulation and implementing the suitable policy as to CAs management. It was not known to many of them, whether there was a need to control investment in receivable and / or inventory. In other word, it was not known whether Nepalese corporations have to follow a kind of liberal or conservative type of working capital policy with respect to cash receivable and inventory. It is clear that huge investment has been made in the form of working capital by Nepalese corporation. They concluded that the relationship between sales and working capital is closed and direct increase in sales would lead to increase in working capital. So they said that there was need to control investment in working capital, if the proportion of working capital to sales increase at a faster rate. They also found the working capital management was more difficult to manage than fixed capital. For manufacturing corporation, current assets management is important because, it take more time, where as its importance to non manufacturing corporation is due to the fact that requires larger investment. Inventory management is of great significant of manufacturing corporation and the management of cash and receivable are of great significance of non manufacturing corporation. The major factor affecting the larger investment in receivable was found to be the liberal credit policy by followed by Nepalese corporation. Similarly the major reason for holding inventories in Nepalese corporation was to facilitate smooth operation of production and sales but not to take advantage of price increase.

Agrawal (1983)in his article , "*Management of Working Capital* "is focused on working capital management in selected large manufacturing and trading public limited companies in the private sector. The study was based on primary as well as secondary data. It used secondary data of 34 companies for the period 1966-67 to 1976-77. The major findings of this study are as follows:

➢ In the majority of the industries, the working capital per rupee of sales has shown a declining trend over the years.

➢ The majority industries have not been able to control liquid resources effectively. An upward trend in cash to current assets ratio and a downward trend in cash turnover so the accumulation of idle cash in these industries.

➢ Most of the executive do not favor investment in marketable securities. They considered it a speculative activity not meant for manufacturers.

> ➤ The average annual percentage growth rate in receivables exceeded the average growth rate in sales in five of the ten industries. The computation of receivable turnover showed that firms in trading sectors have slow turnover as compare to firms in manufacturing industries group.

Acharya (1985) has published an article, "*Problems and Impediments 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 .This study has describe operational problem as well as organizational problem faced by the Nepalese public enterprises regarding the working capital management .Some of these problem are.

The operational problem 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 conversional and proportional of debt and equity 1:1.

⟩ Absent and apathetic information management system .

⟩ Monitoring the proper functioning of working capital management has never considered as managerial job.

Pradhan (2002) has published an article "*The Demand for Working Capital by Nepalese Corporation*". He has selected nine manufacturing public corporation with 12 years dates for 1973 to 1984. Those nine corporation has represented about 80 % of Nepalese manufacturing public corporation established before 1973. Regression analysis has been used or adopted as the tools of analysis. The earlier studies concerning the demand for cash and inventories by business firms didn't report unanimous finding. A lot of controversies exists with respect to the presence of economies of scale, role of capital cost, and capacity utilization rates and the speed with which actual cash and inventories are adjusted to desire cash and inventories respectively. That study paper had investigated these various issue in the context of manufacturing public corporation of Nepal. The pooled regression results showed the presence of economies of scale with respect to the demand of working capital

and its various components. The regression results suggested strongly that the demand for working capital and it's components is a function of sales and their capital costs.

Joseph (2003) has published an 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 indicator of balance sheet in the assets and liability structure of the company. Bank and the other short –term creditors 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.

Mahat (2004) has published article relating to "*Spontaneous Resources Working Capital Management*". The articles 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 includes short term, bank financing such as a bank overdraft, cash credit, bills purchase and discounting, letter of credit e.t.c, where as spontaneous sources of working capital includes trade credit, provisions and accrued expenses.

Zeng (2006) has published an article "*Working Capital Channel and Cross Sector Co- movement* ". The paper studies cross sector co- movement one of the defining characteristics of business cycle in the monetary factor might be important for understanding this phenomenon through a working capital channel. This study showed that in the strictly portfolio adjustment where firm borrow to finance working capital, appositive money supply shock drives the nominal interest rate down, there by 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.

The articles has define that working capital has management is one of the important pillars of corporate finance. However, Nepalese industries are facing difficulty in

their survivals by cause of recession, which can bring best and worst in corporate finance such as environment 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 routing affairs of just making payment and arranging collection of debtors. In contrast the company in debt trouble, it is rather difficult to meet it's 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.

2.3   Review of Thesis

Beside review of available books and research studies a number of studies have been made by students of MBS and MBA relating to working capital management in different private companies of Nepal. This section is focused to review some of those dissertations.

Shrestha (1992) has done a research on   *A Comparative study of Working Capital Management in Bhaktapur Brick Factory (BBF) and Harishiddhi Brick Factory (HBF)* . He had done comparative assessment of working capital management of BBF and HBF. He had focused on the components of working capital-cash, inventory, receivable and current liabilities. The researcher used financial ratios as a major tool for the purpose of analysis the working capital management of BBF and HBF. In addition to this, the researcher used mean, index, standard deviation and coefficient of variation. The findings of the researcher are as follows:

) There is no proper relationship between liquidity and profitability of two brick   factories.

) Both brick factories have followed various working capital polices at a time.

) Both brick factories do not have proper planning of working capital. There is no good combination between fixed capital and working capital.

) BBF has been seriously suffered from negative return whereas HBF has generated positive return. However, both factories' profitability position is not satisfactory.

) Overall management of working capital is not strong in both brick factories.

Aryal (1995) has done a research on the *"Comparative study of Working Capital Management of Hetuada Textile and Balaju Textile"* . The researcher is focus on comparative working capital management and relationship between sales and different variables of working capital. The specific objectives of the study are to analyzed the liquidity; long-term solvency asset utilization and profitability position of both companies. The major findings of the study are as follows:

) The liquidity position of Hetauda Textile Limited was better than that of Balaju Textile Limited, but both companies have not followed a proper working capital policy.

) Basic differences between two companies are the total asset turnover of Balaju Textile was worse than that of the Hetauda textile.

) Cash balance maintained by Balaju Textile Limited was better than that of Hetauda Textile Limited.

) Solvency position of Hetuada Textile was better than that of Balaju Textile.

) Profitability position of Hetauda textile was better than that of Balaju textile because of low cost of production and high working efficiency and low cost of administration and marketing

Yogi (2000) has studied on '*Working capital management of Nepal Lever Limited'* . The objective of this study is to examine the management of working capital of NLltd. The researcher used secondary source of data. The study used financial as well as statical tools to analysis the financial data of five years. The

major ratio analysis consists of the composition of a working capital position, turnover position, liquidity position and profitability position.

The major finding of this study are :

) The company holds large portion of less liquid assets during study period.

)   The proportion of current assets to sales is fluctuating during the study period and current assets has not been properly utilize.

- The components of current liabilities like sundry creditors and short-term loan are influencing trend during the study period.
- Ratio of current liabilities to long-term liabilities is in increasing trend during the study period.
- Liquidity position of the firm id fluctuating trend during the study period, which prove that company has not good sound liquidity position
- There is insignificant relationship between liquidity and profitability.
- Company still follows conservative working capital policy, which reduce risk of company.

Subedi (2003) has conducted the research on *"Working capital Management of Manufacturing Companies Listed in NEPSE"* The main objective is to examine the working capital policy of Nepalese manufacturing companies listed in Nepal Stock Exchange Limited. The researcher has identified the following points as major findings:

- There is wide variation of the current assets within individual manufacturing companies.
- The ratio of cash to current assets is widely varied among manufacturing companies during the study period form 1997 to 2001.
- The overall company average of receivable to current assets ration is 16%.
- There is wide variation in the ratio of inventory to current assets among the manufacturing companies.
- There is no consistency in the company average of current assets to total assets in manufacturing companies
- There is wide variation of company average of net working capital of Nepalese manufacturing companies.
- The liquidity position of Nepalese manufacturing companies is not similar among different companies.
- The current assets turnover ration of the Nepalese manufacturing companies is also widely varied.

Pandey (2005)has carried out study on" *A Comparative study of Working Capital Management in a manufacturing companies and blended companies* ". The main objective is to examine the comparative study of working capital management of manufacturing companies and blending companies. The researcher has identified the following major findings

) There is no current asset management and specific working capital policy in both companies.

) Liquidity, profitability and turn over position were finding not so favorable   during study period.

) Unilever Nepal Limited is following more aggressive financing policy in comparison to Nepal Lube Oil.

) The correlation analysis between net sales and net working capital shows negative relationship and Unilever Nepal Limited shows no relationship.

) Correlation analysis between net working capital and net profit in Unilever Nepal Limited shows the negative relationship whereas Nepal Lube Oil shows the positive relationship.

) The regression analysis shows that there is a negative relationship between net sales and net working capital in Unilever Nepal Limited and positive in Nepal Lube Oil.

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

) Yak and Yeti, oriental and Soaltee Crowne Plaza are suffering from excess of CAs over the CLs.

) Yak and Yeti has followed conservative financing policy whereas soaltee and Oriented have followed aggressive financial policy.

) The relationship between CAs and CLs, CAs and net sales, and net working capital are found negative and receivable and net sales are positive of all selected hotels.

) From the primary information, it has also found 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 by applying suitable credit policy. Lastly, this study mention about operating cost, which must be reduced in proper way so that the hotel 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 is only one or two hotels i.e. Yak and Yeti and Oriental. If this study has directly collect primary information from related respondent not Human Resource Department then this study would be far better than others.

Pathak (2008) has done a research on "*An Evaluation of Working Capital Management of Nepal Lube Oil Limited* "considering 5yr's financial from 2003 to 2007. The objective of this study is are to appraise the working capital management of Nepal Oil Lube Limited and to study the relationship between sales and different This study has found that the CAs with respect to the total assets. According to this study, the growing tendency of investment over current assets could have adverse effects in Nepal Lube Oil Limited wealth maximization goals in long run . the study has suggested that Nepal Lube oil Limited should determine certain rate of return on investment and sale target should be set. The company should always concern about the CAs and CLs and regular check should made. It will control the excess and shortage working capital of company. This study has also give advice that the company should give attention to manpower planning and should avoid both under staffing and over staffing.

The different experts and students on Working Capital Management have conducted many researches in different ways and at varying level of analysis. These different approaches to working capital management improved with the emergence of more and more literature on the subject over time. The approaches that are included in the study cover working capital position, liquidity and profitability position, turnover position and cash conversion cycle in the context of the selected enterprises.

Research Gap

All the above studies are conducted with the research title "Working Capital Management .Some research has 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 environment and production process as company to the last few years . So the study related to working capital management of ULN Ltd has been done in this research.

During the period of gap, the company has renamed to Uni-Lever Nepal Limited from Nepal Lever Limited .In most of the studies has been considered many more objectives which made their study more complicated but in this research report only four objective are taken in study. Some researcher used both primary and secondary data but in this research only secondary data are considered .Both financial as well as statical tools like ratio analysis ,turnover , cash conversion cycle, mean, standard deviation , correlation coefficient are used in this research . Almost all the ratio has been applied   to cover the analytical part and fulfill the objective of this study .It involve more resent data of ULN Ltd for six years. (2003/04 – 2008/09).

CHAPTER III
RESEARCH METHODOLOGY

A systematic study needs to follow a proper methodology to achieve pre-determined objective. Research methodology refers to the various sequential steps to adopt by a researcher in studying a problem with certain objectives in view. Research methodology describes the methods and process, which has been applied in the entire aspect of the study. So in this study, research methodology has been paid due attention to achieve the objective of study.

3.1   Research Design

This study is based on both the descriptive as well as analytical analysis research. The process of accumulating the fact of identifying different variables analyzing there behaviors and discussion and questionnaire is included in descriptive method. Beside this study also consists of analysis of variables like liquidity, profitability, sales and current assets which is known as analytical analysis.

3.2   Population and Sample

The total number of listed manufacturing companies in Nepal is 18. Out of this, only one manufacturing company is select to analyze its working capital and its management. ULNLtd., which is of course a multinational company and has providing quality goods and services as well as creating employment opportunities to Nepalese people. From this enterprises data and information are taken only related to working capital and it's management has been taken for the research purpose.

3.3   Sources of Data

This study is based on secondary data, which are collected from corporate office of ULN Ltd. Supplementary primary data for research has been collected through discussion with related key official as well as from annual financial report of company.

3.4   Methods of Data Analysis

Methods of data analysis are the raw data processing technique to find out the result for making decision. Financial tools as well as statistical tools are used in the method of data analysis.

3.4.1 Financial Tools

Financial tools are used to find the financial indicators, which basically represent ratio analysis which indicate mathematical relationship between two figure that are used for establishing the qualitative relationship between two variables of financial statement for rational decision making on financial variability. In this study liquidity ratios ,profitability ratios ,leverage ratios ,and turnover ratios ,are used .They are explained below:

3.4.1.1   Structure of working capital ratio

The analyzing of structure of working capital enables the management of an enterprise to know as to how the working capital is being administered .It also finished 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 current assets in course of time .

The structure of working capital has been studies by analyzing the following ratio:

a) Working capital component structure on total current assets

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

i) Inventory to Total Current Assets (ITCA):

The ratio implies the percentage of current assets that is in the form of inventory. It is derived as

$$\text{I/TCA} = \frac{\text{Inventory}}{\text{Total Current Asset}} \mid 100\ \%$$

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

ii) Receivable to Total Current Assets (RTCA):

The ratio indicates the share of receivables on total current assets. It is calculated as

$$R/TCA = \frac{Receivables}{Total\ Current\ Asset} \mid 100\ \%.$$

Higher the receivable to total current assets ratio high level of sales on credit portion and vice – versa .

iii) Cash and Bank Balance to Total Current Assets (CB/TCA):

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

$$CB/TCA = \frac{Cash\ and\ Bank\ Balance}{Total\ Current\ Asset} \mid 100\ \%$$

iv) Pre-paid and Advance to Total Current Assets (PA/TCA):

The ratio shows the relationship between the total current assets and pre-paid & advances. It can be calculate as:

$$P\&A/TCA = \frac{Pre\text{-}paid\ \&\ Advance}{Total\ Current\ Asset}$$

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

b) Working Capital Structure on Total Assets

To know the success or failure of one enterprise, the size of working capital must be adequate. The high working capital means high liquidity position but low profitability and low working capital means high rate of profitability and poor liquidity position. Therefore, the following ratios help to study the size of working capital.

i) Total Current Assets to Fixed Assets (CA/FA)

This ratio show the relationship between the total current assets and fixed assets. It is calculated as:

$$\text{CA/FA} = \frac{\text{Total Current Asset}}{\text{Fixed Asset}} \times 100\%$$

If the ratio is large unused working capital maintain by company

ii) Total Current Assets to Total Assets (CA/TA)

The ratio of current assets to total assets indicates what percentage of an enterprise's total assets invested in form of current assets. As the ratio increases, the risk and profitability of enterprise would decrease. It is calculated as:

$$\text{CA/TA} = \frac{\text{Current Asset}}{\text{Total Asset}} \times 100\%$$

iii) Cash And Bank Balance to Total Assets

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

$$\text{CBTA} = \frac{\text{Cash and bank balance}}{\text{Total assets}} x100\%$$

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

It measures the ratio on inventory on total assets .It can be calculated as

$$\text{ITA} = \frac{\text{Inventory}}{\text{Total assets}} x100\%$$

Higher the ratio ,higher the inventory and vice – versa.

v) Receivable to Total Assets

It measure the ratio of receivable on total assets .

$$\text{RTA} = \frac{\text{Receivable}}{\text{Total Assets}} x100\%$$

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

vi) Pre-paid advance to Total Assets

It means the level of investment on pre-paid advance from the total assets.

$$PATA = \frac{Prepaid\,Advance}{Total\,Assets}$$

Higher ratio indicates high level of pre-paid advance to total assets and vice – versa.

3.4.1.2 Composition of Current Liabilities

i) Proportion of Short-Term Loan to Total Current Liabilities (STL/TCL):

Interest bearing loan is short-term loan. The ratio is calculated as follows:

$$STL/TCL = \frac{Short\,Term\,Loan}{Total\,Current\,Liabilities}\,|100$$

ii) Proportion of Trade and Other Payable to Current Liabilities (TP/CL)

Trade and other payable is non-interest bearing loan. The ratio is calculated as follows:

$$TP/CL = \frac{Trade\,\&\,Other\,payable}{Total\,Current\,Liabilities}\,|100$$

iii) Proportion of Provision to Total Current Liabilities (Pro/CL)

It is also a non-interest bearing. The ratio is calculated as follows:

$$Pro/TCL = \frac{Provision}{Total\,Current\,Liabilities}\,|100$$

3.4.1.3 Liquidity Ratio

Liquidity ratio measures the firm's ability to meet its current obliging. To find out the firm's liquidity position, the following ratios are computed:

i) Current Ratio (CR)

Current ratio is basic yardstick of measuring liquidity position of the firm. It is determined as follows:

$$CR = \frac{Current\,Assets}{Current\,Liabilities}$$

Generally, Current Ratio of 2:1 (Current assets twice-Current Liabilities) is to be considered satisfactory.

ii) Quick (Acid-test) Ratio (QR or ATR)

Quick ratio is the ratio between quick or liquid assets and current liabilities i.e it ignores the inclusion of inventories in the current assets and thus is regarded as more liquid than current ratio.

$$\text{Quick ratio} = \frac{\text{Current Assets - Inventories}}{\text{Current Liabilities}} \quad \text{or,} \quad \frac{\text{Quick Assets}}{\text{Current liabilities}}$$

Generally, the company with quick ratio of 1:1 is considered sound position.

3.4.1.4 Activity or Turnover Ratio

These ratios show the relationship between uses of assets in generating the sales. It is important to concerned firm to measure or judge how well facilities at the disposal of the concern firm are being used, or to measure the effectiveness with which a concern uses its resources and disposal. With the help of this ratio, one can say whether the funds have been easily used or not. The following are the important turnover ratio that is calculated to analyze the company's turnover position.

i) Inventory Turnover Ratio (ITR)

Inventory turnover ratio is also called stock turnover ratio. It shows how rapidly the inventory is turning into receivable through sales. It means the ratio shows the efficiency of the business concern in as inventory management. It has computed by dividing the cost of goods sold by the average inventory.

$$\text{Inventory turnover ratio} = \frac{\text{Cost of goods sold}}{\text{Average Inventory}} \quad \text{or} \quad \frac{\text{Sales}}{\text{Closing Inventory}}$$

A high inventory turnover indicates good inventory management and lower inventory turnover indicates poor inventory management.

ii) Debtors /Receivable Turnover Ratio (RTR)

The liquidity position of the firms depends upon the quality of debtors largely. The receivable turnover indicates the collection efficiency of the firm. The analysis of the receivables turnover ratio supplements the information regarding the liquidity of one item of current assets of the firm. The ratios measure how rapidly debts are collected. It is determined by dividing the net credit sales by average receivables outstanding during the year.

$$\text{Receivables turnover ratio} = \frac{\text{Net Credit Sales}}{\text{Average Receivables}} = \frac{\text{Sales}}{\text{Receivables}}$$

Net credit sales = gross credit sales – Return.

Average receivables = beginning of the year + ending of the year

A high ratio is indication of shorter time lag between credit sales and cash collection. A low ratio shows that debts are not collect rapidly.

iii) Current Assets Turnover Ratio (CATR)

This ratio indicates the number of times the current assets are turn over during the year. The increase in ratio shows the good utilization of current assets. Low ratio indicates greater working capital and high ratio indicates lower working capital. It is computed by dividing sales by current assets i.e. gross working capital

$$\text{Current assets turnover ratio} = \frac{\text{Sales}}{\text{Current Assets}}$$

As the CATR increases, it is utilization of current assets. If the ratio is low, a greater volume of working capital.

iv) Net Working Capital Turnover Ratio (NWCTR)

Here, the higher ratio shows the utilization of net working capital and lower ratio vice-versa. It is computed by dividing sales by net working capital i.e. difference of current assets and current liabilities.

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

More ratios show the more utilization and bank balance of net working and fewer ratios and vice versa.

v) Cash and Bank Turnover Ratio (CBTR)

This ratio shows the number of times the average cash balance is turn over during the year. It has computed by dividing sales by cash balance and it measures the speed with which cash moves through an enterprise's operation.

$$\text{Cash Turnover Ratio} = \frac{\text{Sales}}{\text{Cash and bank Balance}}$$

Higher the ratio indicates cash is rapidly converted into sales and efficient cash management.

3.4.1.5. Profitable Ratio

The main objective of each and every business concern is to earn maximum profit. Profitable ratios have calculated to enlighten the end results of business activities that are the sole criterion of the overall efficiency of business concern. The position of the profitability of the company is analysed with the help of following ratios:

i) Gross Profit Margin (GPM)

The gross profit margin reflects the efficiency with which company produces each unit of product.

$$\text{Gross profit margin} = \frac{\text{Gross Profit}}{\text{Sales}} \mid 100 \text{ \%}$$

$$\text{Gross profit} = \frac{\text{sales Z cost of good sold}}{\text{sales}} x100\%$$

The higher percentage indicates the better efficiency of the company. A low gross profit may reflects higher cost of good sold due to the firm's inability to purchase at favorable terms.

ii) Return on Total Assets (RTA)

It is useful measure of the profitability of all financial resources invested in the company's assets. The increase in the ratio indicates the good utilization of total assets or efficiency of the enterprises. It is derived as:

$$\text{Return on Total Assets} = \frac{\text{Net Profit after tax}}{\text{Total Assets}} \mid 100 \text{ \%}$$

$$\textbf{Or,} \quad \frac{\int \text{Net profit after tax } \Gamma \text{ interest } A}{\text{current assets}} x100\%$$

iii) Return on Working Capital (RWC)

It is useful to analyze the profitability position with respect to current assets of the company. It is calculated as follows:

$$\text{Return on Working Capital} = \frac{\text{Net Profit after tax}}{\text{Total Current Assets}} \mid 100\%$$

iv) Net Profit Margin Ratio (NPM)

This ratio is the overall measurement of the company's ability to earn net profit. This ratio is very useful to the proprietors and prospective investors because it revivals the profitability of the concern. It is calculated as follows

$$\text{Net profit margin ratio} = \frac{\text{Net Profit after tax}}{\text{Sales}} \mid 100\%$$

A higher ratio indicates the higher overall efficiency of the business and better utilization of the resources.

3.4.1.5 Working Capital Cash Flow Cycle

It means the cash inflow and outflow period 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 following aspect:

I. Inventory Conversion Period (ICP)

This period indicates the average length of time required to convert materials into finished goods and then to sell those goods. It has calculated as follows:

$$\text{Inventory conversion period} = \frac{\text{Inventory}}{\text{Sales}} \mid 360 \text{ days}$$

II. Receivables Conversion Period (RCP)

This period determines the average length of time required to convert receivables into cash, i.e to collect cash following a sale. It has calculated as follows:

$$\text{Receivables conversion period} = \frac{\text{Receivables}}{\text{Sales}} \mid 360 \text{ days}$$

III. Payable Deferral Period (PDP)

This period is the average length of time between purchase of materials and labor and the payment of cash for them. This has calculated as follows:

$$\text{Payable deferral period} = \frac{\text{Account payables}}{\text{Sales}} \mid 360 \text{ days}$$

IV. Cash Conversion Cycle (CCC)

Cash conversion cycle, which needs out the three periods: inventory conversion period, receivables conversion period and payable deferral period. These equals the length of firm's actual expenditure to pay on productivity resources (raw material and labor) and its own cash receipts from the sale of products (that is from the day labor and or suppliers are pay to the day receivables are collected). The cash conversion cycle that of time the firm has funds tied up to working capital.

Cash conversion cycle= ICP+RCP-PDP

Where,

ICP=Inventory conversion period

RCP= Receivable collection period

PDP=Payable deferral period

3.4.2 Statistical Tools

Statistical tools are used to analyze the relationship between two or more variables and to find how these variables are related. In this study, following statistical are used, which are described below:

I. Mean:

The most popular and widely used measure of representing the entire data by one value is what most nonprofessionals call an "average" and what the statistician call the arithmetic mean. Its value has obtained by adding together all items and by dividing this total by the number of items. The mean value of ratios of study period of both the manufacturing companies has calculated to compare their results. The formula used for calculating mean was as follows:

$$\overline{X} \, \text{X} \frac{x_1 \, \Gamma \, x_2 \, \Gamma \ldots \Gamma \, x_n}{n} \, \text{X} \frac{\sum\limits_{i \, \text{X}1}^{n} x_i}{n}$$

II. Standard Deviation:

The measurement of the scatterness of the mass of figures in a series about an average is known as dispersion. The standard deviation measures the absolute dispersion. The greater the amount of dispersion, indicate greater the standard deviation. A small standard deviation means a high degree of uniformity of the observation as well as homogeneity of the series.

It is the positive square root of average of the square of deviations taken from mean denoted by $\exists$.

Thus, $\exists = \sqrt{\dfrac{\int x\, z\bar{x}\text{Å}}{N}}$

III. Coefficient of Variation:

The standard deviation as stated above is an absolute measure of dispersion. The corresponding relative measure is also called as the coefficient of variation. It has used in such problems where we want to compare the variability of two or more than two series. The series for which the coefficient of variation is greater has said to be more variable or conversely less consistent, less stable or less homogeneous and vice versa. In these studies coefficient of variation has used to analyze the variance of average key variable.

C.V. = $\dfrac{\exists}{\bar{x}}$ ⎮ 100, where $\exists$ = standard deviation of distribution and $\bar{x}$ = mean of

distribution.

IV. Correlation Coefficient: (r)

Two variables are said to have "correlation", when they are so related that the change in the value of one variable is accompanied by the change in the value of other. The measure of correlation called the correlation coefficient summarized in one figures, the degree and direction of movement. Correlation analysis only helps in determining the extent to which the two variables are correlated but it does not tell us about cause and effect relationship. (Bajracharya, 2058) Either correlation can be positive or it can be negative. If both the variables are changing in the same

direction, then correlation is said to be positive but when the correlation in the two variables take place in opposite direction, the correlation is termed as negative.

$$ r = \frac{N \ dx.dy \ Z \ dx. \ dy}{\sqrt{N \ dx^2 \ Z \ fdx\textit{A}}\sqrt{N \ dy^2 \ Z \ fdy\textit{A}}} \quad or \quad \frac{\phi(x-\overline{x})(y-\overline{y})}{\sqrt{\phi(x-\overline{x})^2 \ . \ (y-\overline{y})^2}} $$

Interpretation,

1. if r=0 there is no relationship between variable.

2. if r<o there is negative relationship between the variable

3. if r>o 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

V. Probable Error of Correlation Coefficient:

The probable error (P.E.) is the measure of ascertaining the reliability of the value of Pearsonian coefficient of correlation. P.E. is worked out as under for Karl Pearson's Coefficient of correlation:

$$ P.E. = \ 0.6745 \ \Big| \ \frac{1-r^2}{\sqrt{n}}, $$ where r is sample correlation coefficient and n is sample

size .

N = number of pair of observation.

The probable error is used to interpretation of the significance of correlation are as follows:

If r < 6 |P.E. (r), then the value of r is not significant (i.e. insignificant)

If r > 6 |P.E. (r), then the value of r is significant

If P.E. < r < 6 P.E nothing can calculated.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

To achieve the answer of research problem, the collected raw data are necessary to present and analyze by processing. This chapter will present the raw data on table and diagram to analyze the data by the help of financial as well as statistical tools in relation to working capital of ULN. Ltd.

The composition of current assets was analyzed by making relationship of each component of current assets. The liquidity position was analyzed with the help of current and quick ratio. The efficiency of current assets and current liabilities management was analyzed with the help of turnover position, with the help of turnover ratio, inventory conversion period, receivable turnover and receivable turnover conversion period. Profitability position was analyzed with the help of gross profit margin and net profit margin.

4.1. Structure of Working Capital

The working capital composition is affected by nature of business and attitude of the management toward risk .There are various types of of current assete that have been used in business organization .Some of them has held high amount in current assets and some of them occupied low amount ,which affects the profitability and liquidity position .The major component of working capital of ULN Ltd are inventory, debtors, cash and bank balance, prepaid and advance.

4.1.1.Structure of Total current Assets (CA) on Total Assets (TA)and Fixed Assets (FA):

This structure express the gross working capital portion that is the total assets and similarly the fixed assets ,which show 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 4.1

Structure of Current Assets and Total Assets

(Rs in million)

F/Y	CA	TA	Ratio (%)
2003/04	724.24	859.96	84.22
2004/05	891.41	1019.19	87.46
2005/06	741.61	887.39	83.57
2006/07	639.97	788.9	81.12
2007/08	761.39	901.61	84.44
2008/09	792.2	936.34	84.61
Average			84.23
SD			2.04
CV			2.42

Source: Annual Report of Unilever Nepal Limited, F/Y 2003/04-2008/09

Current Assets to Total Assets : Table 4.1 represent the proportion of current assets to total assets of Nepal Lever Limited . The portion of current assets to total assets is in fluctuating trend .It was 84.22% in 2003/04 and 87.46 % in 2004/05 .It was decrease by 83.57% and 81.12% in 2005/06 and 2006/07 respectively. And again it is increase by 84.44% and 84.60% in 2007/08 and 2008/09. The average ratio of ULN Ltd is 84.23% and CV is 2.42%. This means the ratio of ULN Ltd has less variation because of minimum coefficient of variation.

Table 4.2

Structure of Current Assets and Fixed Assets

(Rs in million)

F/Y	CA	FA	Ratio (%)
2003/04	724.24	135.71	533.67
2004/05	891.41	127.78	697.61
2005/06	741.61	145.78	508.71
2006/07	639.97	148.93	429.71
2007/08	761.39	140.22	542.99
2008/09	792.2	144.15	549.56
Average			543.71
SD			87.23
CV			16.04

Source: Annual Report of Unilever Nepal Limited, F/Y 2003/04-2008/09

Current Assets to Fixed Assets: Unilever Nepal Ltd has fluctuating trend .The percentage of current assets to fixed assets during the period 2003/04 to 2004/05. It was 533.67% and 697.61% .But in 2005 /06 and 2006/07 it decrease to 508.71% and 429.71%.It again increase rapidly by 542.99% and 549.56% in 2007/08 and 2008/2009. The average ratio of ULN Ltd is 543.71% and 16.04% is CV. That means the ratio of current assets to fixed assets is more than that in case of current assets and total assets.

4.1.2 Structure of Net Working Capital on Total Assets (TA) and Fixed Assets (FA):

Net working capital total assets ratio , measure the net working capital position 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 4.3

Structure of Net Working Capital on Total Assets

(Rs in million)

F/Y	NWC	TA	RATIO(%)
2003/04	180.53	939.72	19.21
2004/05	9.39	1098.96	0.85
2005/06	-184.27	967.15	-19.05
2006/07	-127.8	985.25	-12.97
2007/08	-53.18	1085.25	-4.90
2008/09	283.4	1184.99	23.93
Avg			1.18
SD			17.26
CV			1467.12

Source : Annual Report of Unilever Nepal Ltd. Fiscal Year 2003/04 to 2008/09.

Net working capital on total assets : The average portion of net working capital on total assets of company is 1.18%. In the fiscal year 2006/06 to 2007/08 the portion

of net working capital to total assets is negative which indicates that current liabilities of these three years is more than the current assets. The portion of the ratio is 23.93% in the F/Y 2008/09. The CV of the net working capital to total assets is 1467.12%,which implies more variation because of maximum CV in the comparison to ratio of net working capital to total assets.

Table 4.4

Structure of Net Working Capital on Fixed Assets

(Rs in million)

F/Y	NWC	FA	RATIO(%)
2003/04	180.53	135.71	33.03
2004/05	9.39	127.78	7.35
2005/06	-184.27	145.78	-126.40
2006/07	-127.8	148.93	-85.81
2007/08	-53.18	140.20	-37.93
2008/09	283.4	144.15	196.66
Avg			14.47
SD			126.43
CV			873.60

Source : Annual Report of Unilever Nepal Ltd. Fiscal Year 2003/04 to 2008/09.

Net working capital to fixed assets: The average portion of net working capital on fixed assets of company is 14.47%. similarly on total assets ,in the fiscal year 2005/06 to 2007/08 the ratio of the net working capital is fixed aseets is negative because due to the more current liabilities than current assets. The higher ratio is 196.66% in F/Y 2008/09. The CV of the net working capital to fixed assets is 873.60%, which implies more use of current liabilities than the current assets and is more variation due to maximum CV.

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 Uni Lever Nepal Limited is presented in table below .

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Table No 4.5

Structure of Inventory on Total Assets

(Rs in million)

F/Y	INV	TA	Ratio (%)
2003/04	184.22	939.72	19.60
2004/05	229.76	1098.96	20.91
2005/06	256.17	967.15	26.49
2006/07	304.33	985.25	30.89
2007/08	410.11	1085.25	37.79
2008/09	247.32	1184.99	20.87
Avg			26.09
SD			7.16
CV			27.44

Source: Unilever Nepal Ltd. F/Y 2003/04 to 2008/09

Inventory to total assets: the average portion of inventories on total assets of ULN Ltd is 26.09%. Inventory to total assets ratio is fluctuated due to the fluctuation of sales. The largest portion of inventory to total assets is37.79% in F/Y 2007/08 . 19.60% is the smallest portion on total assets to ULN Ltd . The CV for inventories to total assets is 27.44%, which depict s less variation that inventory to total assets.

Table No 4.6

Structure of Inventory on Current Assets

(Rs in million)

F/Y	INV	CA	Ratio (%)
2003/04	184.22	724.24	25.44
2004/05	229.76	891.41	25.77
2005/06	256.17	741.6	34.54
2006/07	304.33	639.96	47.55
2007/08	410.11	761.38	53.86
2008/09	247.32	792.2	31.22
Avg			36.38
SD			11.17
CV			32.34

Source: Annual Report of Unilever Nepal Ltd. F/Y 2003/04 to 2008/09

Inventory to current assets: The average portion of inventories to current assets of ULN Ltd is 36.38%. In the F/Y 2007/08 there is 53.86% proportion of inventories on current assets which is the largest portion during study period. The CV for inventories to current assets is 32.34% which depicts more variation than inventories to currents assets.

4.1.4 Structure of Debtors on Total Assets (TA) and Current Assets (CA)

This ratio is related to receivable management of sales policy .Debtors to total assets and debtors to current assets measure the portion of debtors to total assets and current assets. This ratio show the arrangement of debtors on total assets and current assets .Following tables presents the debtors on total assets and current assets of ULN Ltd company

Table no 4.7

Structure of Debtors on Total Assets

(Rs in million)

F/Y	Debtors	TA	Ratio (%)
2003/04	97.06	939.72	10.33
2004/05	157.57	1098.96	14.35
2005/06	138.31	967.15	14.30
2006/07	136.44	985.25	13.85
2007/08	148.13	1085.25	13.65
2008/09	106.50	1184.99	8.99
Avg			12.58
SD			2.32
CV			18.42

Source: Annual Report of Unilever Nepal Ltd. F/Y 2003/04 to 2008/09

Debtors to total assets: The average debtors to total assets ratio of company is 12.58% during the study period. In the F/Y 2003/04 and 2008/09 they are below the average ratio and rest the remaining four fiscal year, they are higher the average ratio. The highest ratio is 14.35% in the fiscal year 2004/05. The CV for the debtors to total assets is 18.42%, which depicts less variation than debtors to total assets.

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Table no 4.8

Structure of Debtors on Current Assets

(Rs in million)

F/Y	Debtors	CA	Ratio (%)
2003/04	97.06	724.24	13.41
2004/05	157.57	891.41	17.69
2005/06	138.31	741.6	18.65
2006/07	136.44	639.96	21.32
2007/08	148.13	761.38	19.46
2008/09	106.50	792.2	13.45
Avg			17.33
SD			3.25
CV			18.77

Source: Annual Report of Unilever Nepal Ltd. F/Y 2003/04 to 2008/09

Debtors to currents assets: The average portion of debtors on currents assets of company is 17.33%. The highest ratio is 21.32% in the F/Y 2006/07 .The CV for debtors to currents assets is 18.77% which depicts more variation than debtors to current assets.

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

Structure of CBB on Total assets and cash and bank balance in current assets ratio is the portion on total assets and current assets of enterprises has been shows in the following table.

Table 4.9

Structure of Cash and bank Balance on Total assets

(Rs in million)

F/Y	CBB	TA	Ratio (%)
2003/04	391.53	939.72	41.66
2004/05	443.31	1098.96	40.34
2005/06	242.67	967.15	25.09
2006/07	101.6	985.25	10.31
2007/08	98.98	1085.25	9.12
2008/09	382.05	1184.99	32.24
Avg			26.46
SD			14.29
CV			53.98

Source: Annual Report of Unilever Nepal Ltd. F/Y 2003/04 to 2008/09

Cash and Bank Balance to Total Assets: The CBB portion on TA of ULN Ltd is 26.46%. There is three ratio above the average ratio out of them 41.66% is the highest ratio or portion during the study period. In the F/Y2003/04 9.12% is the decreasing ratio during the period. The CV for the CBB to TA ratio is 53.98% which depicts highest variation due to fluctuation trends on ratio of CBB to TA

Table 4.10

Structure of Cash and bank Balance on Current assets

(Rs in million)

F/Y	CBB	CA	Ratio (%)
2003/04	391.53	724.24	54.06
2004/05	443.31	891.41	49.73
2005/06	242.67	741.6	32.72
2006/07	101.6	639.96	15.88
2007/08	98.98	761.38	13.00
2008/09	382.05	792.2	48.23
Avg			35.66
SD			17.93
CV			50.37

Source: Annual Report of Unilever Nepal Ltd. F/Y 2003/04 to 2008/09

Cash and Bank Balance to Current Assets: Nepal Lever Limited has cash and bank balance holds the third proportion of current assets. Cash and Bank balance hold lowest position of Dabur Nepal Limited whereas Trade and other receivable of Nepal Lever Limited.

4.1.6. Structure of Prepaid and Advance on Total Assets Current Assets:

The ratio of Prepaid and Advance to total assets indicate the portion of current assets which occupies the total assets and similarly prepaid advance to current assets ratio indicates that portion of current assets component which occupied on Total Current Assets. Following table presents the prepaid advance ratio of total assets and current assets.

Table 4.11

Structure of Prepaid and Advance on Total Assets

(Rs in million)

F/Y	P & Adv	TA	Ratio (%)
2003/04	51.43	939.72	5.47
2004/05	60.62	1098.96	5.52
2005/06	104.45	967.15	10.79
2006/07	80.29	985.25	8.14
2007/08	104.15	1085.25	9.59
2008/09	56.33	1184.99	4.75
Avg			7.38
SD			2.49
CV			33.85

Source: Annual Report of Unilever Nepal Ltd. F/Y 2003/04 to 2008/09

Prepaid and advance to total assets: The average prepaid and advance on total assets of Unilever Nepal Ltd is 7.38%. In the fiscal year 2005/06 the volume of prepaid and advance is 104.45 million and it is high percentage of prepaid and advance on total assets during the study period. In the F/Y 2003/04 51.43 million and it is 5.47% which is least percentage of prepaid and advance on total assets over the period of time. The CV of the prepaid and advance to total assets is 33.85% which depits the variation due to fluctuation trend of prepaid and advance.

Table 4.12

Structure of Prepaid and Advance on Total Assets

(Rs in million)

F/Y	P & Adv	CA	Ratio (%)
2003/04	51.43	724.24	7.10
2004/05	60.62	891.41	6.80
2005/06	104.45	741.6	14.08
2006/07	80.29	639.96	13.68
2007/08	104.15	761.38	13.68
2008/09	56.33	792.2	7.11
Avg			10.41
SD			3.73
CV			35.88

Source: Annual Report of Unilever Nepal Ltd. F/Y 2003/04 to 2008/09

Prepaid and advance to Current assets: The average prepaid and advance to current assets ratio of Unilever Nepal Ltd is 10.49%. The highest and lowest ratio are 14.08% and 6.80% in the F/Y 2005/06 and 2004/05 respectively. At same year there is the largest increasing ratio from just previous fiscal year by 7.28%. The CV for prepaid and advance to current assets is 10.41% which is depicts variation due to fluctuation trend of prepaid and advance to current assets ratio.

4.2 Utilization of Working Capital .

Only investing in WC 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 ratio. This reflect the speed and rapidity with which assets are concerted into sale there by resulting in the efficiency of the enterprises. Through 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 mean of measurement, and this section examination the turnover position of the Unilever Nepal limited .

4.2.1 Current Assets Turnover Ratio (CATR)

Every business firm's main objective is to sale of product and services. So the sale is most important activity. The survival and growth of company depend on sale of the product. The company should make their sale policy as per resources availability and market demand. The sale 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 the sales is certainly cause increase in production which required more inputs. To keep the stock of materials , there should be adequate amount of working capital. The amount of working capital is also affected by sale policy. If the credit of sales are increased more working capital will be required to meet the daily requirement.

This ratio indicates the number of times the total current assets is turnover during year in relation to its sales.

Table 4.13

Current assets turnover Ratio

(Rs in million)

F/Y	Sales	CA	Ratio (%)	Change
2003/04	1524.9	724.24	2.10	-
2004/05	1481.56	891.41	1.66	0.44
2005/06	1459.69	741.6	1.98	-0.32
2006/07	1818.53	639.96	2.84	-0.86
2007/08	2144.59	761.38	2.81	0.02
2008/09	2625.83	792.2	3.31	-0.49
Avg			2.45	
SD			0.63	
CV			25.72	

Source: Annual Report of Unilever Nepal Ltd. F/Y 2003/04 to 2008/09

The above table shows current assets turnover ratio in times. Current assets turnover ratio for the F/Y 2003/04, 2004/05, 2005/06, 2006/07, 2007/08, 2008/09 are 2.10, 1.66, 1.98, 2.48, 2.81, 3.31 times respectively. In F/Y

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2004/05 current assets turnover ratio is reduce by 0.32 times with the comparison of last year. The average of the study period the current assets turnover position of the company is 2.45 times. The CV of the sales on current assets is 25.72%, which depicts variation due to fluctuation trend in sales to current assets ratio.

Figure 4.1

Current Assets Turnover Ratio
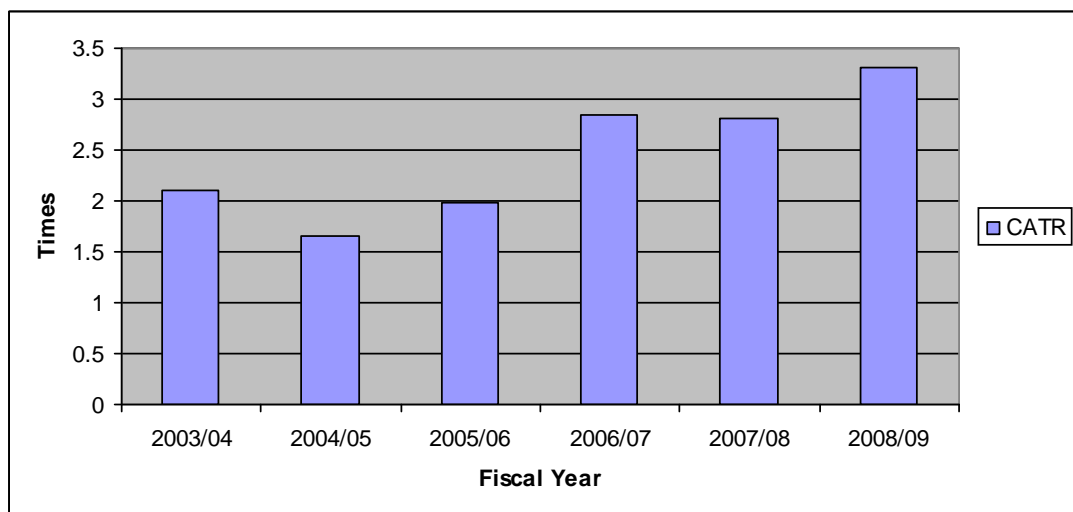
4.2.2 Inventory Turnover Ratio (ITR):

It has already been stated that the WC production and sale are correlated in general cases. The production should be increase 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 WC. In this way the inventory is affected by sale volume. The proportion of inventories to sales has been presented below.

Table 4.14

Inventory Turnover Ratio .

(Rs in million)

F/Y	Sales	Inventory	Ratio (times)	Change
2003/04	1524.9	184.22	8.28	_
2004/05	1481.56	229.76	6.45	1.83
2005/06	1459.69	256.17	5.74	0.72
2006/07	1818.53	321.62	5.98	-0.24
2007/08	2144.59	410.12	5.23	0.75
2008/09	2625.83	247.32	10.62	-5.38
Avg			7.05	
SD			2.04	
CV			28.93	

Source: Annual Report of Unilever Nepal Ltd. F/Y 2003/04 to 2008/09

The above table shows the ITR in times. The ratio of average ITR during the study period has been 7.05 times. The inventory turnover period in F/Y 2003/04, 2004/05, 2005/06, 2006/07, 2007/08, 2008/09 are 8.28, 6.45, 5.74, 5.98, 5.23, 10.62, times. It has decrease in three years 2004/05, 2005/06 and 2007/08 by 1.83, 0.72, 0.75 times. The CV of ITR is 28.93% which indicate less variation in figure of ITR in the given period.

Figure 4.2
Inventory Turnover Ratio
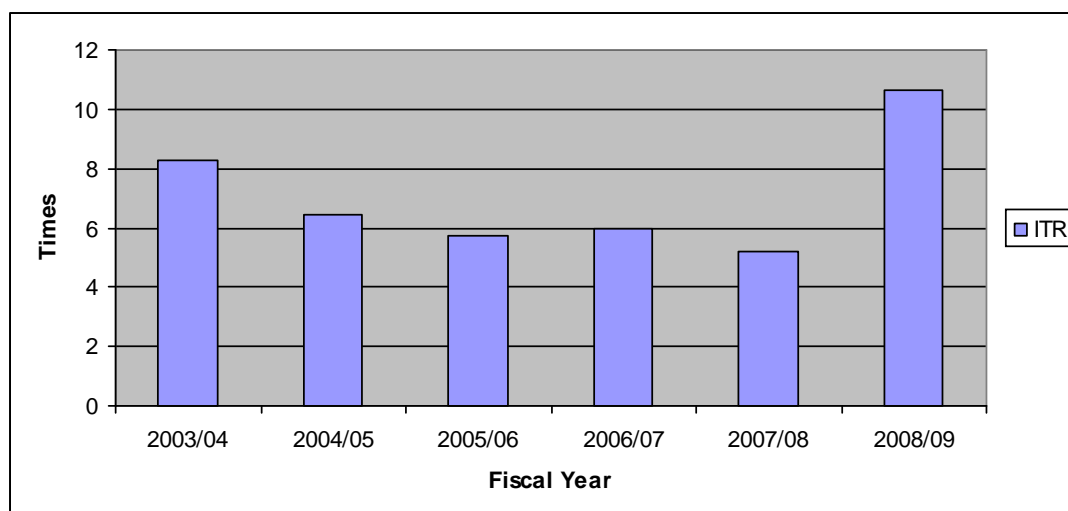
4.2.3. Receivable Turnover Ratio (RTR)

Receivable is one of the component of working capital in other to increase the business activity ,the company has increase the sale volume. The sale volume can be increase by given product in credit to customer the level of receivable goes up, because generally receivable in by credit sale. The credit sale policy is applied to increase the sale level. The proportion of receivable to sale and receivable conversion period has been tabulated as follows.

Table 4.15

Receivable Turnover Ratio

(Rs in million)

F/Y	Sales	Receivable	Ratio (Times)	Change
2003/04	1524.9	97.06	15.71	_
2004/05	1481.56	157.57	9.39	6.31
2005/06	1459.69	138.31	10.63	-1.23
2006/07	1818.53	136.44	13.33	-2.70
2007/08	2144.59	148.13	14.48	-1.15
2008/09	2625.83	106.50	24.66	10.18
Avg			14.69	
SD			5.42	
CV			36.86	

Source: Annual Report of Unilever Nepal Ltd. F/Y 2003/04 to 2008/09

The above presented table shows the receivable to times in the six year study period. Receivable turnover ratio in 6yr.2003/04, 2004/05,2005/06,2006/07,2007/08,2008/09,are15.71%,9.39%,10.63%,13.33%,14.48 %,24.66%, times respectively. The highest receivable turnover in the study period is 24.66% time in the F/Y 2008/09. In the F/Y 2004/05 has the lowest in during the study period. The average time is 9.39%.The fluctuate ratio is sometimes very high and but sometimes it is very low. It shows the receivable collection policy of Unilever Nepal ltd is changing year by year. That means company follows some times hard collection policy and sometimes liberal collection policy.

Figure 4.3

Receivable Turnover Ratio
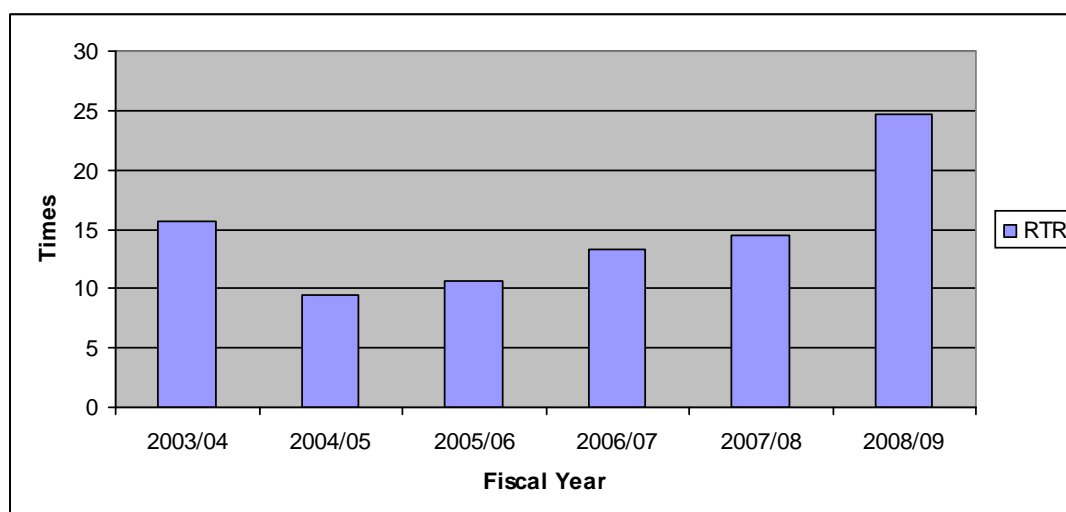
4.2.4 Cash and Bank Balance Turnover Ratio

It is one of the main part of current assets which has the greatest value to meet the current obligation occurred in business. The following table shows the cash and bank balance turnover ratio of the Unilever Nepal Ltd during the study period.:

Table 4.16

Cash and Bank Balance Turnover Ratio

(Rs in million)

F/Y	Sales	CBB	Ratio(times)	Change
2003/04	1524.9	391.53	3.89	_
2004/05	1481.56	443.31	3.34	0.55
2005/06	1459.69	443.67	6.05	-2.71
2006/07	1818.53	101.6	17.89	-11.84
2007/08	2144.59	98.98	21.66	-3.76
2008/09	2625.83	382.05	6.87	14.79
Avg			9.95	
SD			7.81	
CV			78.50	

Source : Annual report of Unilever Nepal Ltd ,fiscal year 2003/04 to 2008/09

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The above table shows the CBB turnover ratio in times of ULNLtd. The ratio indicates that a rupee invested in CBB generate in times. CBB turnover ratio for the F/Y 2003/04, 2004/05, 2005/06,2006,07, 2007/08, 2008/09 are 3.89, 3.34, 6.05, 17.89, 21.66, 6.87 times respectively. The highest time of CBB turnover ratio is 21.66 times in F/Y 2007/08 and the lowest time of CBB turnover ratio is 3.34 times in the F/Y 2004/05. In the F/Y 2008/09 CBB turnover ratio is highly positive change 14.79 times as comparison to previous year. The CBB turnover ratio during the study period is 9.95 times and CV is 78.50%   which indicates more variation on CBB turnover ratio.

Figure 4.4

Cash and Bank Balance Turnover Ratio
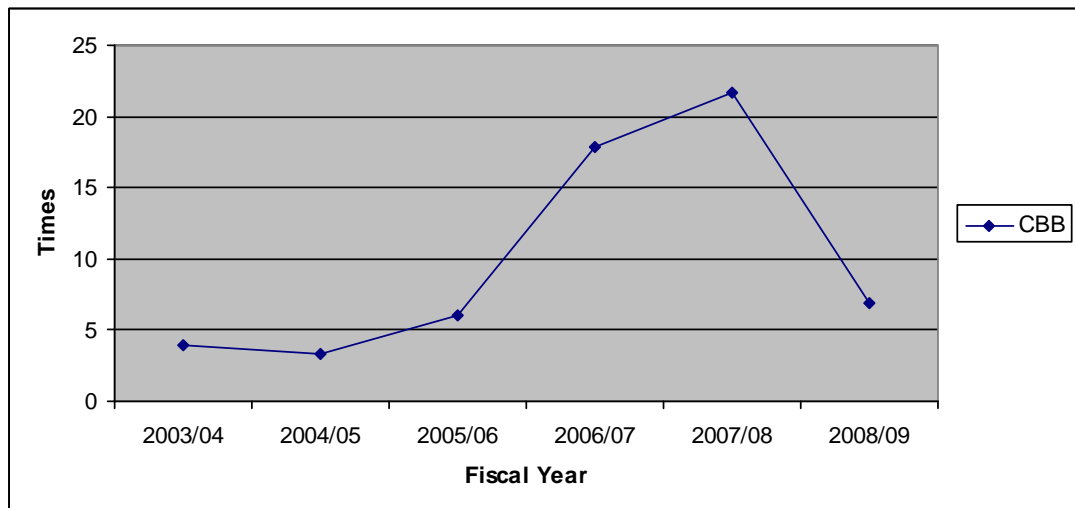
4.2.5 Net Working Capital Turnover Ratio :

The net working capital turnover ratio measure how many time net working capital is used in relation to sale and the efficiency of the company. The net working capital turnover ratio is presented in following table.

Table 4.17

Net Working Capital Turnover Ratio

(Rs in million)

F/Y	Sales	NWC	Ratio (times)	Change
2003/04	1524.9	180.54	8.44	–
2004/05	1481.56	9.39	157.88	-149.44
2005/06	1459.69	-184.27	-7.97	165.85
2006/07	1818.53	-127.80	-14.22	6.25
2007/08	2144.59	-53.18	-40.32	26.09
2008/09	2625.83	283.40	9.26	-49.59
Avg			18.84	
SD			70.49	
CV			374.06	

Source : Annual report of Unilever Nepal Ltd ,fiscal year 2003/04 to 2008/09

The above table shows the NWC turnover ratio in time of ULNLtd. NWC turnover ratio for the F/Y 2003/04 to 2008/09 are 8.44, 157.88, -7.97, -14.22, -40.32, 9.26 times respectively. In three F/Y NWC turnover ratio is in negative form which indicates that the financial position is poor for these year. In the F/Y 2004/05 the NWC turnover ratio is the highest times i.e is 157.88 times. The average NWC turnover ratio during the study period is 18.84 times, the CV for the above ratio is 374.06% which depicts very more variation due to fluctuation trend in the ratio.

Figure 4.5

Net Working Capital Turnover Ratio
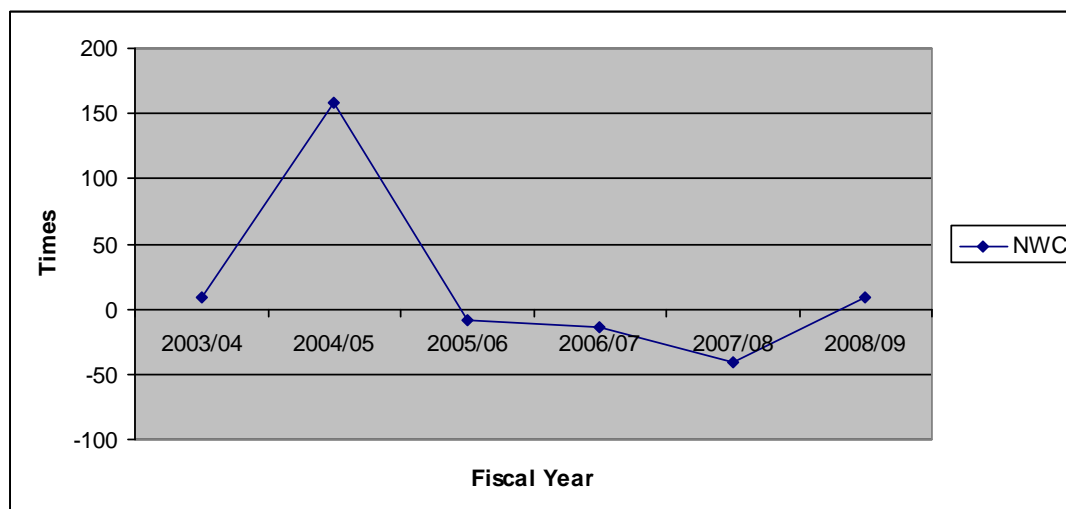
4.2.6 Prepaid and Advance Turnover Ratio (PATR):

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

Table 4.18

Prepaid and Advance Turnover Ratio

(Rs in million)

F/Y	Sales	P & Adv	Ratio (Times)	Change
2003/04	1524.9	51.43	29.65	-
2004/05	1481.56	60.62	24.45	5.20
2005/06	1459.69	104.45	14.07	10.38
2006/07	1818.53	80.29	22.62	-8.57
2007/08	2144.59	104.15	20.59	2.06
2008/09	2625.83	56.33	46.61	-26.08
Avg			26.33	
SD			11.16	
CV			42.37	

Source : Annual report of Unilever Nepal Ltd ,fiscal year 2003/04 to 2008/09

The above table shows the P &Adv. turnover ratio in times of company. The average P & Adv. turnover ratio in the study period is 26.33 times. In the F/Y 2008/09 the largest decreasing ratio from just previous F/Y by 26.08 times. The highest and lowest P & Adv turnover ratio are 46.61 & 14.07 times in the F/Y 2008/09 & 2005/06 respectively. The CV is 42.37% variation during the study period.

Figure 4.6

Prepaid & Advance Turnover Ratio
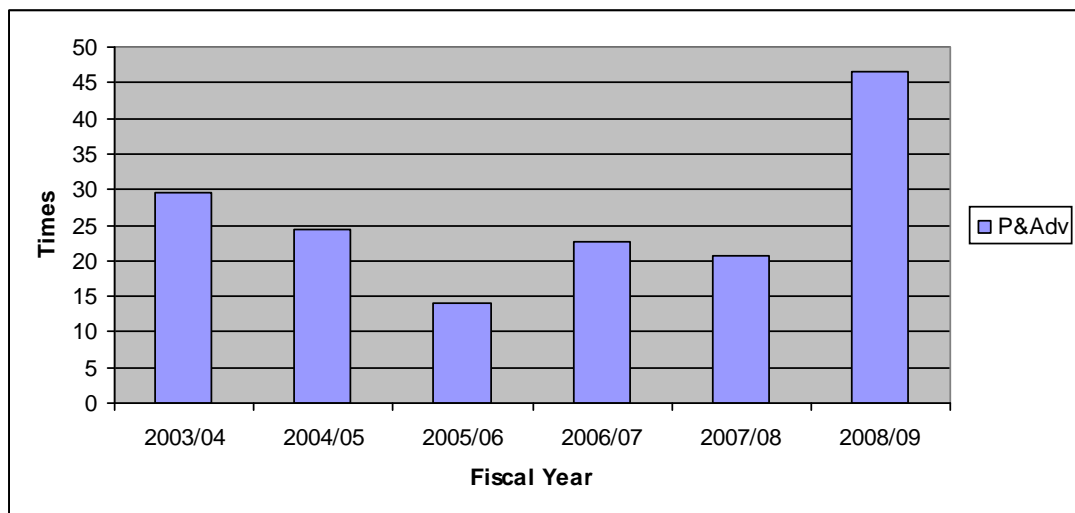
4.3 Liquidity Position (LP):

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 Unilever Nepal Ltd with measure the liquidity position indicates the ability to pay of its short-term obligation. Liquidity position indicates how many time the current assets is available to meet the one time of currents assets is available to meet the one time current liabilities. In this section current ratio and quick ratio are comparatively analyzed.

4.3.1 Current Ratio (CR):

It is also called working capital ratio. It indicates the ability of the company to meet it's current obligations, change in current ratio can how ever be misleading. If the

company raised money through commercial paper and 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. Current ratio of sample enterprises for the period of the study is calculated in table no 4.19

Table 4.19

Current Ratio

(Rs in million)

F/Y	CA	CL	Ratio (times)	Change
2003/04	724.24	426.45	1.69	_
2004/05	891.41	882.02	1.01	0.68
2005/06	557.96	742.23	0.99	0.01
2006/07	639.96	767.77	0.83	0.16
2007/08	744.3	814.57	0.93	-0.10
2008/09	792.20	508.80	1.56	-0.62
Avg			1.17	
SD			0.36	
CV			30.80	

Source : Annual report of Unilever Nepal Ltd ,fiscal year 2003/04 to 2008/09

The above table shows that the current ratio of ULN Ltd in the F/Y 2003/04 to 2008/09 are 1.69:1, 1.01:1, 0.99:1, 0.83:1, 0.93:1, and 1.56:1 times respectively. In the F/Y 2004/05 it is increase by 0.68 & reached to 0.01:1. But in two years it is decreasing trends. The current ratio of 2:1 is generally considered satisfactory for the manufacturing company, during the study period. The average current ratio of ULN Ltd is found 1.17:1 which is below the current ratio standard. So, the company current ratio has found to be not satisfactory. The CV of current ratio is 30.80%, which indicates less fluctuation on current assets.

Figure 4.7
Current Ratio
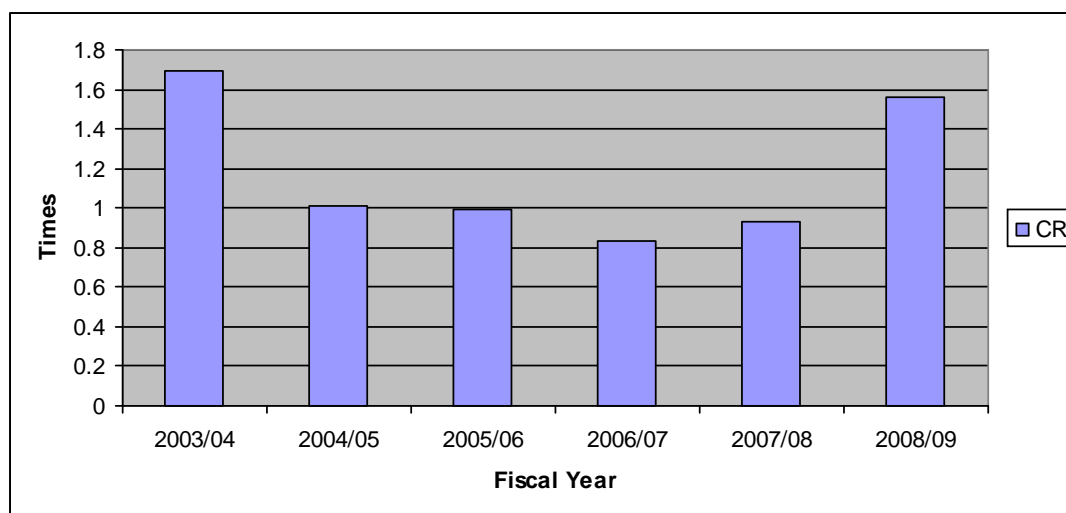
4.3.2. Quick Ratio (QR):

Quick ratio measure the liquidity position in net term. It 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. The liquidity arises because finished goods cannot be sold for more than production cost. The quick ratio of related enterprises are presented in table no 4.20.

Table 4.20
Quick Ratio

(Rs in million)

F/Y	QA	CL	Ratio (times)	Change
2003/04	540.03	426.45	1.27	_
2004/05	661.65	882.02	0.75	0.52
2005/06	485.44	742.23	0.65	0.10
2006/07	318.34	767.77	0.41	0.24
2007/08	351.27	814.57	0.43	-0.02
2008/09	544.88	508.80	1.07	-0.64
Avg			0.76	
SD			0.34	
CV			44.99	

Source : Annual report of Unilever Nepal Ltd ,fiscal year 2003/04 to 2008/09

The above table shows the quick ratio of ULNLtd. where quick assets consists of cash and bank balance, sundry debtors, prepaid and advance and quick ratio of company for the F/Y2003/04 to 2008/09 are 1.27:1,0.75:1, 0.65:1, 0.41:1, 0.43:1, & 1.07:1. During the study period the highest quick ratio 1.27:1 in F/Y 2003/04. In the F/Y 2008/09there is largest decreasing ratio by –0.64% as compare to previous F/Y. The above table relevant that quick ratio of ULNLtd. has not meet standard 1:1 except F/Y 2003/04. The average quick ratio of the company is 0.76 times which is below the standard. So the quick ratio of the ULNLtd. is unfavorable. The CV of quick ratio is 44.99% during the study period. This indicate less fluctuation on quick ratio.

Figure 4.8

Quick Ratio
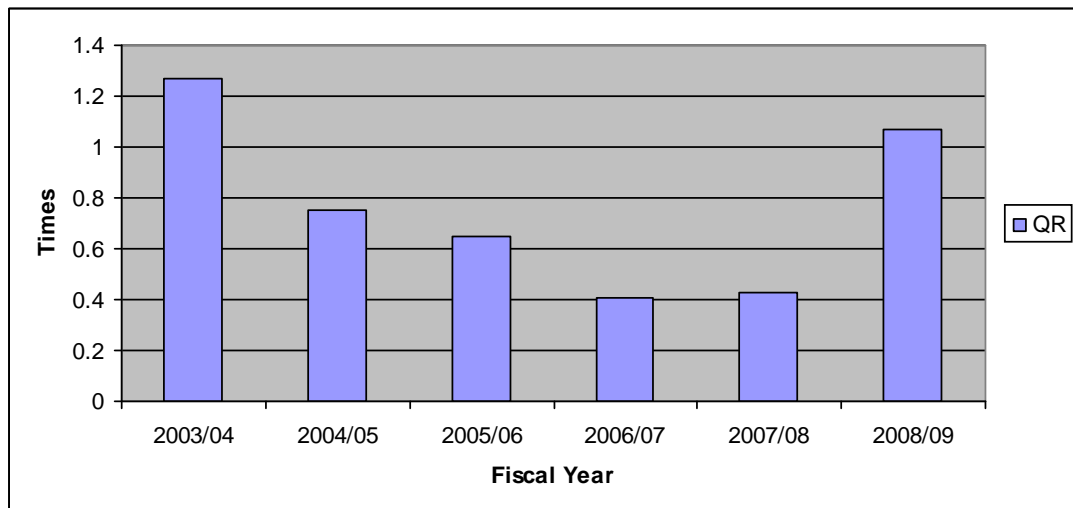
4.4. Working Capital Cash Conversion Cycle (WC CCC):

Working capital cash conversion cycle measure the total number of days from raw materials purchase to when cash is receive from debtors. This shows the cash inflow and outflow period of company ,inflow and outflow are repetitive process. Cash inflow and cash out flow 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 sales and long period indicates slow conversion period. Following tables represents the ICP.

Table 4.21

Inventory Conversion Period

(RS in million)

F/Y	Inventories	Sales	Days in year	ICP (days)	Change
2003/04	184.22	1524.9	360	43.49 = 43	_
2004/05	229.76	1481.56	360	55.79 = 55	-12
2005/06	256.17	1459.69	360	62.72 = 62	-7
2006/07	321.62	1818.53	360	60.74 = 60	2
2007/08	410.12	2144.59	360	68.84 = 68	-8
2008/09	247.32	2625.83	360	33.90 = 33	30
Avg				54.17 = 54	
SD				13.06	
CV				24.11	

Source : Annual report of Unilever Nepal Ltd ,fiscal year 2003/04 to 2008/09

Above table shows that inventory conversion period in days. The inventory conversion period of the company in F/Y 2003/04, 2004/05, 2005/06, 2006/07, 2007/08, 2008/09 are 43, 55, 62, 60, 68, 33, first three year but in the last year it is decrease by the 30 days. ICP in F/Y 2007/08 is 68 days which is increasing period. The lowest ICP is 33 days in F/Y 2008/09. The average ICP is 54 days and CV is 24.11%, which indicate less fluctuation on ICP.

Figure 4.9

Inventory Conversion Period
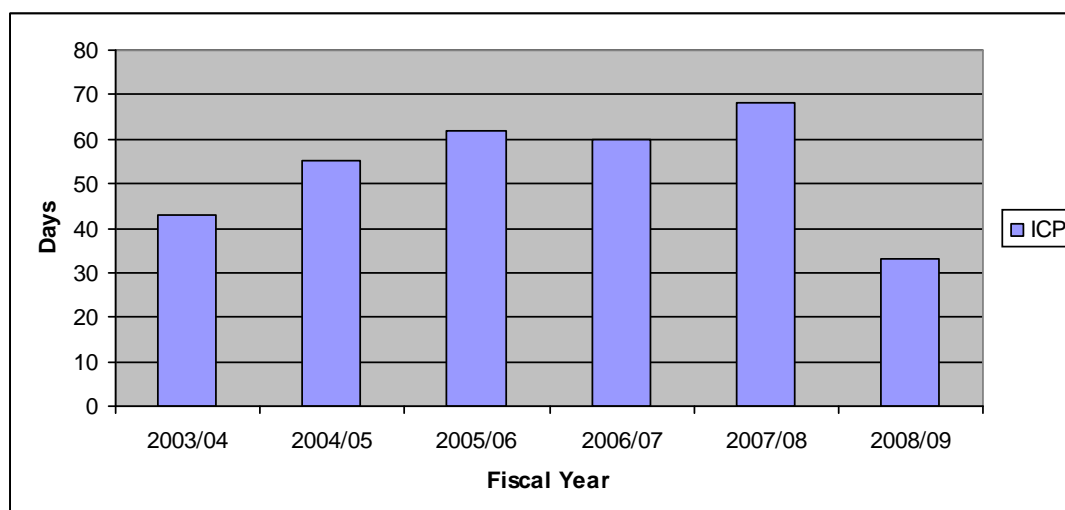
4.4.2. Receivable Collection Period (RCP):

RCP is the average length of time required to convert thr time receivable into cash. The receivable collection period is also called the days sales outstanding. The table show the RCP of Unilever Nepal Ltd .in the 6 years period.

Table No 4.22

Receivable conversion period

(Rs. In million)

F/Y	Receivable	Sales	Days in year	RCP	Change
2003/04	97.06	1524.9	360	22.91 =22	_
2004/05	157.72	1481.56	360	38.29 =38	-16
2005/06	138.32	1459.69	360	33.88 =33	5
2006/07	136.45	1818.53	360	27.01 =27	6
2007/08	148.13	2144.59	360	24.86 =24	13
2008/09	106.50	2625.83	360	14.60 =14	10
Avg				26.93 =26	
SD				8.37	
CV				31.07	

Source : Annual report of Unilever Nepal Ltd ,fiscal year 2003/04 to 2008/09

The above table shows the length of the times of the RCP in days. The RCP in F/Y 2003/04 to 2008/09 are 22, 38, 33, 27, 24,and 14 days respectively. RCP during the study period is increasing trend during last year 2004/05. In this year RCP is decrease by -16 days. The lowest days of RCP is only 14 days in F/Y 2008/09 and the highest days of RCP is 38 days in F/Y 2004/05. The average RCP of ULNLtd. is 26 days. It indicates the collection policy but it is hardly to say that collection policy change by company. The CV of company is 31.07, which indicates more fluctuation on RCP.

Figure 4.10

Receivable Conversion Period
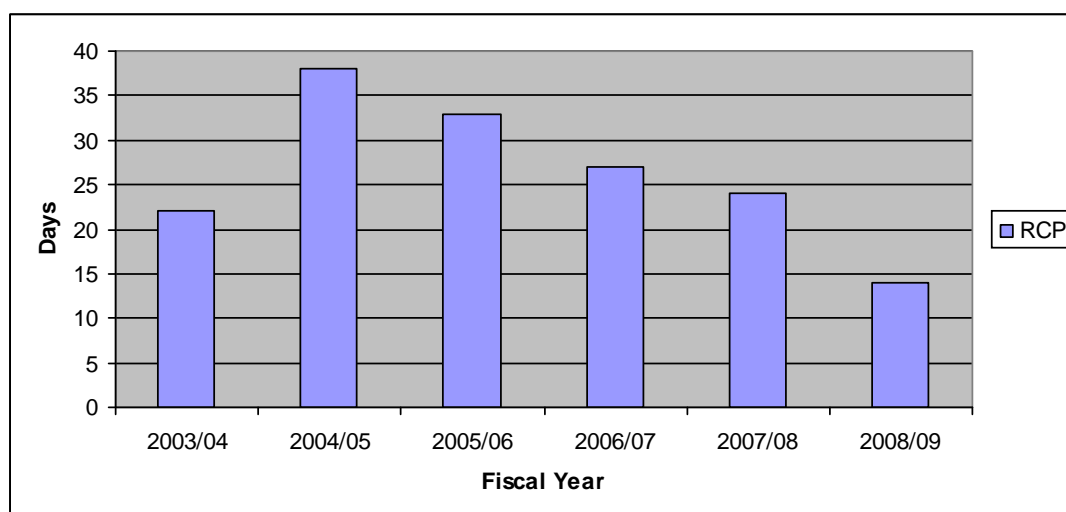
4.4.3. Payable Deferral Period (PDP):

The PDP measures the period of payment to the trade creditors 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 PDP of UNLtd. is presented in the following table.

Table 4.23

Payable Deferral Period

(Rs in million)

F/Y	a/c payable	Sales	DIY	PDP(Days)	Change
2003/04	325.72	1524.9	360	76.53=76	-
2004/05	370.24	1481.56	360	89.96=89	-13
2005/06	353.37	1459.69	360	87.15=87	2
2006/07	368.49	1818.53	360	72.94=72	15
2007/08	384.11	2144.59	360	64.47=64	8
2008/09	266.7	2625.83	360	36.56=36	20
Average				71.27=71	
SD				19.40=19	
CV				27.22	

Source : Annual report of Unilever Nepal Ltd ,fiscal year 2003/04 to 2008/09

The above table shows the length of time of PDP in days. The PDP in F/Y 2003/04 to 2008/09 are 76,89, 87,72,64,36, days respectively. PDP during the study period is in decreasing trend except last year 2004/05. In the year PDP is increase by 21 days. The lowest days in PDP is 58 days in the F/Y 2008/09 and the highest days of PDP of ULNLtd. is 144 days in the F/Y 2004/05. The average of PDP is 112 days and CV of company is 27.85, which indicates fluctuation on PDP.

Figure 4.11

Payable Deferral Period
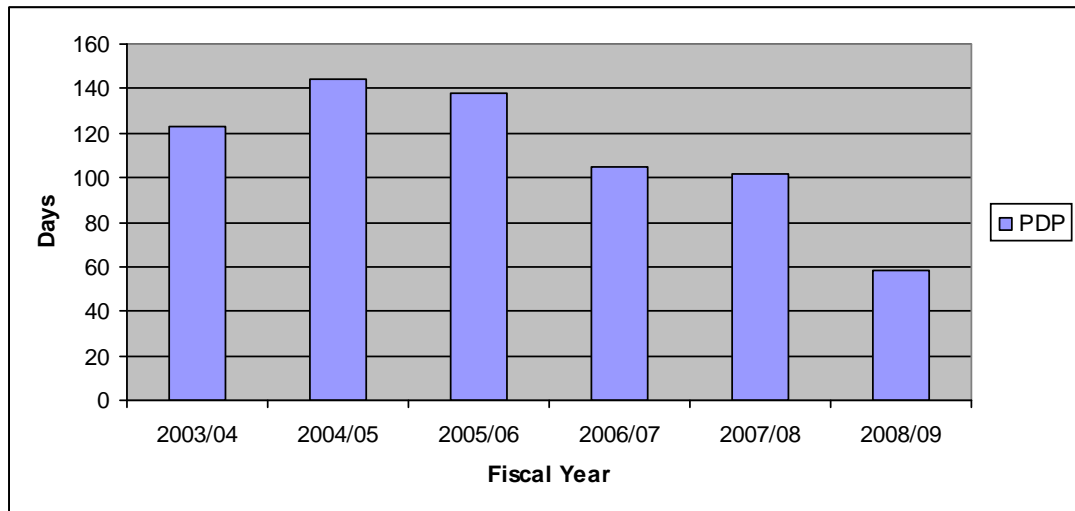
4.4.4. Cash Conversion Cycle:

The cash conversion cycle 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 ULN Ltd.

Table 4.24

Cash Conversion Cycle

(Rs in million)

F/Y	ICP	RCP	PDP	CCC
2003/04	43	22	76	-11
2004/05	55	38	89	4
2005/06	62	33	87	8
2006/07	60	27	72	15
2007/08	68	24	64	28
2008/09	33	14	36	11
Average				9.16=9
SD				12.86
CV				140.39

Source: Annual report of Unilever Nepal Ltd, F/Y 2003/04 to 2008/09

The above table shows the average CCC is 9.16 days. In all F/Y 2003/04 to 2008/09 CCC are -11,4,8,15,28 and 11 days respectively. The CCC of the company 9 days which seems to be satisfactory for short period but in long period it will deteriote the credit worthiness of the company. The CV is 140.39%. This indicates that variation of ULNLtd. is very high. ULNLtd. hasn't been able to make consistency of CCC.

4.5. Profitability Position (PP):

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. An ability to earn maximum from maximum use of available resources by the business organization is known as profitability.

4.5.1. Net Profit Margin (NPM):

Net profit margin show the relationship between net profit and sales. It indicates available ratio of profit margin for ownership of capital. The table presented below shows the net profit margin.

Table 4.25

Net Profit Margin

(Rs in million)

F/Y	NPAT	Sales	Ratio (%)
	140.78	1524.9	9.23
2004/05	189.2	1481.56	12.76
2005/06	238.16	1459.69	16.20
2006/07	335.12	1818.53	18.43
2007/08	263.06	2144.59	12.27
2008/09	444.04	2625.83	16.91
Avg			14.30
SD			3.45
CV			24.16

Source: Annual Report of Unilever Nepal Ltd. F/Y 2003/04 to 2008/09

The above table shows the net profit margin is in fluctuating ratio due to fluctuating of net profit after tax and sales volume. The highest net profit margin in the study period is 18.43% , similarly the lowest net profit margin in the study period is 9.23% . The net profit margin is increasing trend except in fiscal year 2007/08 , it is decrease by 6.16% as compare to previous year. The net profit margin of company is satisfactory for all fiscal year. The average net profit margin is 14 30% and CV of net profit margin ratio is 24.16%, which indicate less variation net profit after tax to sales ratio.

4.5.2. Gross Profit Margin (GPM):

GPM is the relationship between gross profit and sales. It is measure the percentage return of gross profit out of total sales. The table presented below shows the relationship between gross profit earned by the company during the study period.

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Table 4.26

Gross Profit Margin

(Rs in million)

F/Y	GP	Sales	Ratio (%)
2003/04	555.79	1524.9	36.45
2004/05	543.74	1481.56	36.68
2005/06	529.45	1459.69	36.02
2006/07	774.37	1818.53	42.58
2007/08	536.9	2144.59	25.04
2008/09	929.27	2625.83	35.39
Avg			35.36
SD			5.69
CV			16.10

Source : Annual report of Unilever Nepal Ltd ,fiscal year 2003/04 to 2008/09

In the above table gross profit margin ratio of ULN Ltd .is in F/Y 2003/04 to 2006/07 are 36.45, 36.68, 36.02, 42.58 respectively. In F/Y 2007/08 and 2008/09 gross profit ratio is decreasing trend. The highest ratio of gross profit ratio is 42.58%. The average gross profit ratio is 35 36% and CV is 16.10 % which indicates less variation gross profit to sales ratio.

4.5.3.Return on Total Assets (ROTA):

ROTA 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 company.

Table 4.27

Return on Total Assets

(Rs in million)

F/Y	NPAT	TA	Ratio (%)
2003/04	140.78	939.72	14.88
2004/05	189.2	1098.96	17.22
2005/06	238.16	967.25	24.62
2006/07	335.12	985.25	34.01
2007/08	263.06	1085.25	24.24
2008/09	444.04	1184.99	37.47
Avg			25.42
SD			8.92
CV			35.07

Source : Annual Report of Unilever Nepal Ltd. F/Y 2003/04 to 2008/09

In the above table return on total assets is increasing trend in F/ Y. The highest and lowest return on total assets is 37.47% and 14.88% in F/Y 2008/09 and 2003/04 respectively. The return on total assets during the period is 25.42% and CV is 35.07% which indicate less variation on return on total assets.

4.5.4. Return on Working Capital (ROWC):

The rate of return on current assets measured the profit with respect to its total current assets. The table presented below shows thereturn on working capital of Unilever Nepal Limited .

Table 4.28

Return on Working Capital

(Rs in million)

F/Y	NPAT	CA	Ratio (%)
2003/04	140.78	724.24	19.44
2004/05	189.2	891.41	21.22
2005/06	238.16	557.96	32.11
2006/07	335.12	639.96	52.37
2007/08	263.06	744.3	34.55
2008/09	444.04	792.20	56.05
Avg			35.96
SD			15.36
CV			42.72

Source: Annual Report of Unilever Nepal Ltd. F/Y 2003/04 to 2008/09

In the above table the return of working capital in percentage of ULNLtd. The average return on working capital of company is 35.96% during the study period. In the F/Y 2008/09 the return on working capital of working capital of ULN Ltd has 56.05% very higher than that of following fiscal year. Return on working capital has increasing trend with the CV of return of working capital is 42.72%.

4.5.5 Operating Expenses Ratio:

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 measure the efficiency of the company as regarded to minimizing cost. The table presented below to operating ratio of ULNLtd. during the study period.

Table 4.29

Operating Expenses Ratio

(Rs in million)

F/Y	COGS	op. expenses	Sales	Ratio (%)
2003/04	952.25	423.99	1524.9	90.25
2004/05	923.15	374.13	1481.56	86.56
2005/06	916.46	345.03	1459.69	86.42
2006/07	1257.49	248.03	1818.53	88.78
2007/08	1352.84	494.97	2144.59	86.16
2008/09	1636.53	581.80	2625.83	84.48
Average				86.11
SD				2.49
CV				2.89

Source: Annual Report of Unilever Nepal Ltd. F/Y 2003/04 to 2008/09

The above table shows that the operating expenses ratio of ULN Ltd in the F/Y from 2003/04 to 2008/09. the ratio of F/Y are 90.25%, 86.56%, 86.42%, 88.78%, 86.16%,84.48% respectively. The ratio has decrease except in 2008/09. the ratio fluctuate between 84.48% to 90.25%. High ratio indicates the inefficiency of management and unable to manage the working capital of company. In an average the company has 86.11% of operating ratio during the study period. CV of operating expenses ratio is 2.89% which indicates less fluctuation on operating expenses ratio.

4.6. Analysis of working Capital Relationship :

In other to study the significance of various working capital variable 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 variable of ULNLtd.

Table 4.30

Correlation Between Working Capital Variable

Correlation coefficient between	ULNLtd			
	R	P.E	6 P.E	REMARKS
(i)Current assets & Total assets	0.26	0.25	1.53	Insignificant
(ii)Current assets &Current liabilities	0.37	0.17	1.036	Insignificant
(iii)Current assets & its components				
a. Inventory &Current assets	-0.92	0.042	0.25	Significant
b. Debtors &Current assets	0.47	0.22	1.29	Insignificant
c. CBB &Current assets	0.92	0.042	0.25	Significant
d. PAD &Current assets	0.36	0.24	1.43	Insignificant
(iv) Working capital & Sales	0.24	0.26	1.56	Insignificant
(v) WC Components & Sales				
a. Inventories & Sales	1.23	-0.14	-1.86	Significant
b. Debtors & Sales	-0.29	0.25	1.50	Insignificant
c. CBB & Sales	-0.33	0.24	1.47	Insignificant
d. PAD & Sales	-0.08	0.27	1.64	Insignificant
(vi) WC & Production	0.24	0.26	1.56	Insignificant
(vii) WC Component & Production				
a. Inventories & Production	1.46	-0.31	-1.89	Nothing can calculated
b. Debtors & Production	0.25	0.26	1.55	Insignificant
C. CBB &Production	-0.44	0.22	1.33	Nothing can calculated
d. PAD & Production	-0.0024	0.28	1.65	Insignificant

Source: Appendix

Currents assets and total assets: The value of 'r' between current assets and total assets of ULN Ltd is 0.26 that means they have low degree of positive relationship.

PE and 6PE ratio is 0.25 & 1.53 respectively. Since here the value of 'r' is less than 6PE, which means the relationship is said to be insignificant.

Current Assets and Current Liabilities: The 'r' PE & 6PE between current assets and current liabilities are 0.37, 0.17, 1.036 respectively. Since there is low degree of positive relationship. The 'r' is less than 6PE that means the relationship is insignificant.

Current Assets and It's Components: From the above correlation presentation table , the study find that company has negative relationship between inventory and current assets. Similarly there is positive relationship between debtors, cash &bank balance and current assets and there is also positive relationship between prepaid & advance and currents assets. The value of 'r' is significant in case of cash &bank balance and current assets. Likewise the value of 'r' is insignificant i.e there is no evidence of correlation between debtors, prepaid & advance and currents assets. The relationship between inventory and current assets result is significant because the value of 'r' is greater than 6PE (i.e r > 6PE).

Working capital and sales: The value of 'r' between working capital and sales of ULN Ltd. is 0.24 that means they have low degree of positive relationship.PE 6PE ratio are 0.26 & 1.56 respectively. The value of 'r' is less than 6PE that means the results insignificant (i.e. r > 6PE).

Working Capital Components and Sales: ULN Ltd has positive 'r' between inventory and sales. It has negative relationship between three working capital and sales (i.e debtors, PAD, CBB). In the above tables working capital components and sales the value of 'r' is less than 6PE in case of CBB, debtors, PAD and sales that means result insignificant (i.e. r > 6PE). Similarly 'r' is greater than 6PE in case of inventory and sales that means the relationship is said to be significant.

Working Capital and Production: The value of 'r' , PE and 6PE in between working capital and production are 0.24, 0.26, 1.56 respectively. This means relationship is low degree of positive. The value of 'r' is less than 6PE which means results is insignificant (i.e. r < 6PE).

Working Capital Components and Production: The value of 'r' is less than respective value of 6PE, it means that there is insignificant relationship between debtors prepaid & advance and production. Similarly the value of 'r' is greater than PE and less than 6PE (i.e PE<r< 6PE) in case of inventory, cash &bank balance and production. So nothing can calculated.

4.7   Major Findings

The major empirical findings of the whole study are presented below:

1.   Working Capital Structure: It has been found that current assets structure level of ULN Ltd are not stable. The current assets portion on total assets renged between 87.46% to 81.12% with the average portion 84.23%and similarly on fixed assets ranged between 697.62% to 429.72%with average portion 543.7%.

2.   The average net working capital on total assets and fixed assets portion are 1.18%and 14.47% respectively. It has been found that in the current assets ,inventory holds the largest portion followed by cash and bank balance ,debtors and prepaid and advance with 36.38%, 35.60%, 17.33%, 10.41% respectively.

3.   The highest fluctuation are in CBB & Inventories corresponding.

4.   Utilization of Working Capital: current assets turnover ratio found increasing by 0.86 times due to slightly increasing trend. The average of inventory turnover ratio to sale is 7.05 times and CV is 28.93% which indicates that company cannot efficiently utilize the inventories and less variation in figure of inventory turnover ratio. The average receivable turnover ratio is 14.69%. It is found that the receivable turnover ratio is changing year by year. Company followed sometimes hard collection and sometimes liberal collection policy during the study period. CBB has increase by 3.76 times. The average turnover ratio is 9.95 times ,similarly it is found that average of net working capital turnover ratio and prepaid and advance turnover ratio is 18.84 times and 26.33 times.

5.   Working Capital Conversion Cycle: The inventory conversion period of company is ranging between 33 days in fiscal year 2008/09to 68 days in fiscal year 2007/08. It has the average inventory conversion period of 54 days. Receivable conversion period varies from minimum of 14 days to maximum of 38 days. It has   average receivable conversion period of 26 days. The

payable deferral period varies from maximum of 89 days in fiscal year 2004/05 to minimum 36 days in fiscal year 2003/04. the average is 71 days. The average cash conversion cycle of the company is 9 days. The analysis of ULNLtd. has shown that long PDP and short ICP and short RCP, which is favorable for the company.

6. Liquidity Position: The liquidity position of ULNLtd. is analyzed with the current ratio and quick ratio. Current assets of ULN Ltd is ranging in between 0.83:1 to 1.69:1. The company average current ratio is 1.17:1 times during the study , which is below the standard 2:1. It indicates poor liquidity position of company. The quick ratio of the company is ranging in between 0.41 times to 1.27 times and company average 0.76:1, which is less than standard 1:1. It shows that company has not been able to convert current assets quickly in case in other to meet current liabilities. Current Ratio and Quick Ratio both revealed and unsatisfactory liquidity position of ULN Ltd and there after to increase to financial position for working capital.

7. Profitability Position: Profitability position of ULN Ltd has been found that average NPM, GPM, ROTA, ROWA are 14.30%, 35.36%,25.42%, 35.96% respectively. NPM and GPM are in increasing trend but ROTA and ROWA are in decreasing trend that means there is improper utilization of assets.

8. Relationship of Working Capital Components: The correlation coefficient of current assets with total assets has found low degree of positive relationship but correlation coefficient 'r' with current assets and current liabilities has also found low degree of positive relationship .In component wise relationship between Inventory and current assets has found negative correlated whereas prepaid and advance, CBB & debtors has found positive correlation with current assets. Cash and bank balance, Inventory and current assets has significant relationship. In overall Unilever Nepal Limited has insignificant relationship of working capital component with sales. Value of 'r' between working capital component and production are negative correlated with insignificant relationship. There is insignificant relationship other remaining working capital component and production whereas there is nothing can calculated between Inventory and production because is found that the value of 'r' is greater than P.E. is smaller than 6.P.E (i.e P.E< r < 6.P.E)

CHAPTER V
SUMMARY, CONCLUSION & RECOMMENDATION

5.1   Summary

The concept of working capital used in two ways. Gross working capital refers to the firm's investment in current assets.Net working capital means the difference between current assets and current liabilities, and therefore, represents that position of current assets, which the firm has to finance from long –term funds or bank borrowings. A firm is required to invest in current assets for a smooth, uninterrupted production and sale.

The study mainly aims to review working capital management of enterprises in Nepal .The main objective of the study is to analyze the working capital management efficiency of Unilever Nepal Limited.

The modern financial management and its offshoot working capital management are abundantly used by corporate sector organization to improve their efficiency. A public sector enterprise also must benefit from the knowledge and competence by applying these techniques in its own organization for its betterment and effectiveness. Working capital management, a very sensitive area of financial management, was the main center of the study and it was relate with manufacturing enterprises. It includes the data of manufacturing enterprises that is Unilever Nepal Limited, covers six years (2003/04 to 2008/09), which was collected from secondary sources. The balance sheet and income statement for the period were collect from published data. The available data were tabulate and analyzed by applying various financial and statistical tools in order to accomplish the objective of the study.

The manufacturing industry 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 Unilever Nepal Limited. In this study working capital financing policy is studies. Element of working capital are determine and various ratio 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 tools with help of various financial data available from the secondary data published by the company.

The composition of working capital position turnover position and liquidity position, current assets financing policy, have also been discussed and analyzed. The study has given focus on working capital analysis, percentage working capital on cost of production and correlation coefficient between cost of production, and other variable. 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.

Nepal is one of the least developed countries in the world. Minimum physical facilities that are necessary for human beings are still seem far from the access of rural area. Recently the agriculture sector has being slowly replacing by other sectors. Various manufacturing companies have been established and developed through government effort from NIDC to industries. At present there are 28 manufacturing enterprises in Nepal. The manufacturing sector contributes 7.7% GDP to country.

5.2   Conclusion

In the conclusion it can be said that working capital is most important part of manufacturing companies and it should not be neglected. Manufacturing company are not getting prosperous position due to their administrative negligence day to day operation, un-necessary blockage of inventories and lack of specific working capital position.

I.   While pinpointing the sample company the study financing the investment in current assets in high with respect net fixed assets. ULN Ltd has excess level of current assets with 84.23% in comparison of to standard 30% to 60% of total assets.

II.   The current assets turnover ratio of ULN Ltd is not in fulfill satisfaction level. In comparison only CBB is more than other component of ULNLtd. A huge amount of CBB is occupied as a current assets of the company.

III.   Liquidity position of ULNLtd. 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 ULNLtd. is poor.

IV.   The outcome cash conversion cycle of ULNLtd. is not satisfied condition for long run because analysis show that there is long payable deferral period, short inventory conversion period and short receivable conversion period which is favorable only for short run and it will cause negative impact from its trade creditors in upcoming days of company.

V.   Similarly after analyzing the various profitability ratio it can be concluded that there is operating inefficient 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 share holders wealth.

VI.   The correlation coefficient of the variables selected for statically analysis show that the ULNLtd. has insignificant relationship and correlation with each other except with cash and bank balance and current assets, inventory and sales and inventory and production. As we know that positive correlation means both of the variables are moving toward the same direction the finding suggest that ULNLtd. has strong relationship between each variables.

5.3   Recommendation

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

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

2.   Negative net working capital represent the poor financing management of company. Some study period shows the similar case in ULNLtd. while analyzing

the data. Therefore to eradicate these situation suitable working capital should be formulated and implemented.

3. Cash and Bank balance should be increased which will increased liquidity power and ability to meet transaction.

4. The management of working capital highly depends upon the effective inventories management. The company should make the effective sale plane which is for immediate marketability and it certainly decreasing the problem of over stocking. The management must give attention towards capacity utilization, carrying cost, ordering cost, and lead time for effective inventories management. At the same time to manage inventory and minimized the wastage there should be good storekeeping system, better material handling system and timely inspection system.

5. Liquidity handling of company is not satisfactory because it is 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 than requirement gives no return to the company.

6. ULN Ltd. must try to collect the RCP credit amount regularly.

7. ULN Ltd. should properly utilize current assets and total assets to increase ROWC and ROTA.

8. Profitability and utilization position should be increased by better utilizing the resources and current assets.

9. Company should develop appropriate management information system by preparing timely report. This aids in determining the amount of working capital needs. They should recognized the value of management system.

10. Skilled trained and efficiency 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 technologic and familiar to their application. Not only technical personnel, but financial manager, account officer, inventory controllers, sales officer and other general employees must be given frequent training programmed, organized by diff. association. The skill manpower decrease the operating cost and increases the profitability.

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Appendix 1

Brief overview of company.

Unilever Nepal Limited:

Nepal Lever Limited was incorporated in 1992 and listed in 1994 as joint venture Company at a private sector. Nepal Lever Limited is a first subsidiary company of Hindustan Lever Limited at outside of India with holding 80% ownership with 5% local promoters and with 15% around 2500 public share holders. The main purpose of the company is to meet the everyday needs of people.

The main products of the company are Detergents, Toilet-soaps, Oral Care, Scourers, Skin Creams, Laundry Soaps, Hair care, Food and Beverages. The company has 30 lakh authorized capital and paid up capital is 9 crore 20 lakhs and 70 thousand.

Nepal Lever Limited has purpose for long term success through total commitment to exceptional standard of performance and productivity to working together infectively and to willingness to embrace new ideas and learn continuously.

The managing directors under the supervision and control of the board of director manage the company. The board of directors appoints the managing directors. The company Board of Directors (BOD) is MR. Dhabal Bucha, MR. Ravi Bhakta Shrestha, MR. Bharat Bahadur Thapa, MR. Shashi Raj Pandey, MR. Ashok Gupta a MR. Shrijit Mishra, and MR. Kamran Bakar.

Calculation of Correlation between Current Assets and Total Assets

X	Y	$(X- \overline{X})$	$(Y- \overline{Y})$	$(X- \overline{X})^2$	$(Y- \overline{Y})^2$	$(X- \overline{X})(Y- \overline{Y})$
724.24	939.72	-34.22	-103.83	1171	10780.67	3553.06
891.41	1098.96	132.95	55.41	17675.70	3070.27	7366.76
741.6	967.15	160.86	-76.4	284.26	5836.96	-12289.70
639.96	985.25	-118.5	-58.3	14042.25	3398.89	6908.55
761.38	1085.25	2.92	41.7	8.526	1738.89	121.76
792.20	1184.99	33.74	141.44	1138.39	20005.27	4772.18
$\overline{X} =$ 758.46	$\overline{Y} = 1043.55$	$\phi\|(X- \overline{X}) = 177.75\|$	$\phi(Y- \overline{Y}) = 0.02$	$\phi\|(X- \overline{X})^2$ X|MMMI EKAO|	$\phi(Y- \overline{Y})^2$ $= 44830.95\|$	$\phi(X- \overline{X})(Y- \overline{Y})$ $= 10432.61\|$

$$r(x,y) = \frac{\phi(x- \overline{x})(y - \overline{y})}{\sqrt{\phi(x- \overline{x})^2 \cdot (y - \overline{y})^2}} = \frac{1043.61}{\sqrt{34320.126 \times 44830.95}} = \frac{10432.61}{39225.04} = 0.26$$

$$P.E. = \frac{0.6745(1 - r^2)}{\sqrt{n}} = \frac{0.6745(1 - 0.26^2)}{\sqrt{6}}$$

$$= \frac{0.6745 \times 0.929}{\sqrt{6}} = \frac{0.6268}{\sqrt{6}} = 0.25$$

$$6 P.E. = 6 \times 0.2558 = 1.53$$

Calculation of Correlation between Current Assets and Current Liabilities

X	Y	$(X-\overline{X})$	$(Y-\overline{Y})$	$(X-\overline{X})^2$	$(Y-\overline{Y})^2$	$(X-\overline{X})\times(Y-\overline{Y})$
724.24	426.45	-34.22	-263.85	1171	69616.85	9028.95
891.41	882.02	132.95	191.72	17675.70	36756.55	25489.17
741.6	742.23	160.86	51.93	284.26	2696.72	8353.45
639.96	767.77	-118.5	77.47	14042.25	6001.69	-9180.19
761.38	814.57	2.92	124.27	8.526	15443.09	362.87
792.20	508.30	33.74	-181.5	1138.39	32942.25	-6123.81
$\overline{X}=758.46$	$\overline{Y}=690.30$	$\phi\|(X-\overline{X})=$ 177.75|	$\phi(Y-\overline{Y})=0.04$	$\phi\|(X-\overline{X})^2$ X|MMMI FK\O)	$\phi(Y-\overline{Y})^2$ $=163457.15\|$	$\phi(X-\overline{X})(Y-\overline{Y})$ $=27930.44\|$

$$r(x,y)=\frac{\phi(x-\overline{x})(y-\overline{y})}{\sqrt{\phi(x-\overline{x})^2\cdot(y-\overline{y})^2}}=\frac{27930.44}{\sqrt{34320.126\times163457.15}}=\frac{27930.44}{74899.06}\qquad=0.37$$

$$\text{P.E.}=\frac{0.6745(1-r^2)}{\sqrt{n}}=\frac{0.6745(1-0.37^2)}{\sqrt{6}}$$

$$=\frac{0.6745\times0.627}{\sqrt{6}}=\frac{0.4229}{\sqrt{6}}=0.17$$

6 P.E. $=6\times0.17=1.036$

Calculation of Correlation between Current Assets and Inventory

X	Y	$(X-\overline{X})$	$(Y-\overline{Y})$	$(X-\overline{X})^2$	$(Y-\overline{Y})^2$	$(X-\overline{X}) \times (Y-\overline{Y})$
724.24	184.22	-34.22	-87.76	1171	7701.86	3003.15
891.41	229.76	132.95	-42.22	17675.70	1782.52	-5613.15
741.6	256.17	160.86	-15.81	284.26	249.96	-2543.19
639.96	304.33	-118.5	32.35	14042.25	1046.52	-3833.48
761.38	410.11	2.92	138.13	8.526	19079.89	403.34
792.20	247.32	33.74	-24.66	1138.39	608.12	-832.03
$\overline{X} = 758.46$	$\overline{Y} = 271.98$	$\phi\|(X-\overline{X}) = 177.75\|$	$\phi(Y-\overline{Y}) = 0.03$	$\phi\|(X-\overline{X})^2$ X|MMAl EKAO)	$\phi(Y-\overline{Y})^2 = 3046.87_\|$	$\phi(X-\overline{X})(Y-\overline{Y}) = -9415.36\|$

$$r(x,y) = \frac{\phi(x-\overline{x})(y-\overline{y})}{\sqrt{\phi(x-\overline{x})^2 . (y-\overline{y})^2}} = \frac{-9415.36}{\sqrt{34320.126 \times 3046.87}} = \frac{-9415.36}{10225.89} = 0.92$$

$$\text{P.E.} = \frac{0.6745(1-r^2)}{\sqrt{n}} = \frac{0.6745(1-0.92^2)}{\sqrt{6}}$$

$$= \frac{0.6745 \times 0.1536}{\sqrt{6}} = \frac{0.0.1036}{\sqrt{6}} = 0.042$$

6 P.E. $= 6 \times 0.042 = 0.25$

Calculation of Correlation between Current Assets and Debtors

X	Y	$(X-\overline{X})$	$(Y-\overline{Y})$	$(X-\overline{X})^2$	$(Y-\overline{Y})^2$	$(X-\overline{X})\times(Y-\overline{Y})$
724.24	97.06	-34.22	-33.64	1171	1131.65	1151.16
891.41	157.72	132.95	27.07	17675.70	730.08	3598.98
741.6	138.32	160.86	7.62	284.26	58.06	1225.75
639.96	136.45	-118.5	5.75	14042.25	33.06	-681.38
761.38	148.13	2.92	17.43	8.526	303.80	50.89
792.20	106.50	33.74	-24.2	1138.39	585.64	-816.51
$\overline{X}=758.46$	$\overline{Y}=130.70$	$\phi\|(X-\overline{X})=$ 177.75|	$\phi(Y-\overline{Y})=0.03$	$\phi\|(X-\overline{X})^2$ X|MMMI EKAO|	$\phi(Y-\overline{Y})^2$ $=2642.29\|$	$\phi(X-\overline{X})(Y-\overline{Y})$ $=4528.87\|$

$$r(x,y) = \frac{\phi(x-\overline{x})(y-\overline{y})}{\sqrt{\phi(x-\overline{x})^2 \cdot (y-\overline{y})^2}} = \frac{4528.87}{\sqrt{34320.126 \times 2642.29}} = \frac{4528.87}{9522.80} \qquad = 0.47$$

$$\text{P.E.} = \frac{0.6745(1-r^2)}{\sqrt{n}} = \frac{0.6745(1-0.47^2)}{\sqrt{6}}$$

$$= 0.22$$

$$6\ \text{P.E.} = 6 \times 0.22 = 1.29$$

Appendix 6
Calculation of Correlation between Current Assets and Cash and Bank Balance

X	Y	$(X-\overline{X})$	$(Y-\overline{Y})$	$(X-\overline{X})^2$	$(Y-\overline{Y})^2$	$(X-\overline{X})\times(Y-\overline{Y})$
724.24	391.53	-34.22	81.34	1171	6616.19	2783.45
891.41	443.31	132.95	133.12	17675.70	17720.93	27698.30
741.6	443.67	160.86	133.48	284.26	17816.91	21471.59
639.96	101.6	-118.5	-202.59	14042.25	41042.70	24006.91
761.38	98.98	2.92	-211.21	8.526	44609.66	-616.73
792.20	382.05	33.74	71.86	1138.39	5163.86	2424.55
$\overline{X}=758.46$	$\overline{Y}=310.19$	$\phi\|(X-\overline{X})=$ 177.75|	$\phi(Y-\overline{Y})=$ 6.72	$\phi\|(X-\overline{X})^2X\|$ MNVNIHKAO)	$\phi(Y-\overline{Y})^2$ = 132970.25|	$\phi(X-\overline{X})(Y-\overline{Y})$ = 62201.17|

$$r(x,y) = \frac{\phi(x-\overline{x})(y-\overline{y})}{\sqrt{\phi(x-\overline{x})^2 \cdot (y-\overline{y})^2}} = \frac{62201.17}{\sqrt{34320.126 \times 132970.25}} = \frac{62201.17}{67554.09} \qquad = 0.92$$

$$P.E. = \frac{0.6745(1-r^2)}{\sqrt{n}} = \frac{0.6745(1-0.92^2)}{\sqrt{6}}$$

$$= 0.42$$

6 P.E. $= 6 \times 0.42 = 0.25$

Appendix 7

Calculation of Correlation between Current Assets and Prepaid and Advance

X	Y	$(X-\overline{X})$	$(Y-\overline{Y})$	$(X-\overline{X})^2$	$(Y-\overline{Y})^2$	$(X-\overline{X})\times(Y-\overline{Y})$
724.24	51.43	-34.22	-24.78	1171	614.05	847.97
891.41	60.62	132.95	-15.59	17675.70	243.05	-2072.69
741.6	104.45	160.86	28.24	284.26	797.49	4542.69
639.96	80.29	-118.5	4.08	14042.25	16.64	-483.48
761.38	104.15	2.92	27.94	8.526	780.64	81.58
792.20	56.33	33.74	-19.88	1138.39	395.21	670.70
$\overline{X}=758.46$	$\overline{Y}=76.21$	$\phi\|(X-\overline{X})=$ 177.75|	$\phi(Y-\overline{Y})=0.01$	$\phi\|(X-\overline{X})^2$ X||MNNAI EKAO|	$\phi(Y-\overline{Y})^2$ $=2847.08\|$	$\phi(X-\overline{X})(Y-\overline{Y})$ $=3586.82\|$

$$r(x,y) = \frac{\phi(x-\overline{x})(y-\overline{y})}{\sqrt{\phi(x-\overline{x})^2 \cdot (y-\overline{y})^2}} = \frac{3586.82}{\sqrt{34320.126 \times 2847.08}} = \frac{3586.82}{9884.95} = 0.36$$

$$P.E. = \frac{0.6745(1-r^2)}{\sqrt{n}} = \frac{0.6745(1-0.36^2)}{\sqrt{6}}$$

$$= 0.24$$

6 P.E. $= 6 \times 0.24 = 1.43$

Calculation of Correlation between Working Capital and Sales

X	Y	$(X-\overline{X})$	$(X-\overline{X})^2$	$(Y-\overline{Y})$	$(Y-\overline{Y})^2$	$(X-\overline{X}) \times (Y-\overline{Y})$
180.53	1524.9	162.52	26412.75	-317.62	100882.46	-51619.60
9.39	1481.56	-8.62	74.30	-360.96	130292.12	3111.47
-184.27	1459.69	202.28	40917.19	-382.83	146558.80	-77438.85
-127.8	1818.53	145.28	21260.56	-23.99	575.52	3497.98
-53.18	2144.59	71.19	5068.02	302.07	91246.28	21504.36
283.40	2625.83	265.39	70431.85	783.31	613574.56	207882.64
$\overline{X}=18.01$	$\overline{Y}=1842.52$	$\phi\|(X-\overline{X})=$ 838.57|	$\phi(X-\overline{X})^2=$ 164164.67	$\phi\|(Y-\overline{Y})^2$ X|ZI ℍΛ|	$\phi(Y-\overline{Y})^2$ = 1083129.74|	$\phi(X-\overline{X})(Y-\overline{Y})$ = 99942.04|

$$r(x,y) = \frac{\phi(x-\overline{x})(y-\overline{y})}{\sqrt{\phi(x-\overline{x})^2 \cdot (y-\overline{y})^2}} = \frac{99942.04}{\sqrt{164164.67 \times 1083129.74}} = \frac{99942.04}{421677..17} = 0.24$$

$$P.E. = \frac{0.6745(1-r^2)}{\sqrt{n}} = \frac{0.6745 \times 0.9438}{\sqrt{6}} = \frac{0.6366}{\sqrt{6}} = 0.26$$

$$6 \ P.E. = 6 \times 0.26 = 1.56$$

Calculation of Correlation between Inventory and Sales

X	Y	$(X-\overline{X})$	$(X-\overline{X})^2$	$(Y-\overline{Y})$	$(Y-\overline{Y})^2$	$(X-\overline{X})\times(Y-\overline{Y})$
184.22	1524.9	-87.76	7701.86	-317.62	100882.46	27874.33
229.76	1481.56	-42.22	1782.52	-360.96	130292.12	15239.73
256.17	1459.69	-15.81	249.96	-382.83	146558.80	6052.54
304.33	1818.53	32.35	1046.52	-23.99	575.52	-776.08
410.11	2144.59	138.13	19079.89	302.07	91246.28	41724.93
247.32	2625.83	-24.66	608.12	783.31	613574.56	-19316.42
$\overline{X}=271.98$	$\overline{Y}=1842.52$	$\phi(X-\overline{X})=0.03$	$\phi(X-\overline{X})^2$ $=3046.87_{\mid}$	$\phi\mid(Y-\overline{Y})$ 乂丨乙丨Ⅲ乀	$\phi(Y-\overline{Y})^2$ $=1083129.74_{\mid}$	$\phi(X-\overline{X})(Y-\overline{Y})$ $=70799.03\mid$

$$r(x,y) = \frac{\phi(x-\overline{x})(y-\overline{y})}{\sqrt{\phi(x-\overline{x})^2 \cdot (y-\overline{y})^2}} = \frac{70799.03}{\sqrt{3046.87 \times 1083129.74}} = \frac{70799.03}{57446.98} \qquad = 1.23$$

$$\text{P.E.} = \frac{0.6745\,(1-r^2)}{\sqrt{n}} = \frac{0.6745 \times 0.5188}{\sqrt{6}} = \frac{-0.3499}{\sqrt{6}} = -0.14$$

6 P.E. = 6 × -0.14 = 0.86

Calculation of Correlation between Debtors and Sales

X	Y	$(X-\overline{X})$	$(X-\overline{X})^2$	$(Y-\overline{Y})$	$(Y-\overline{Y})^2$	$(X-\overline{X}) \times (Y-\overline{Y})$
97.06	1524.9	-33.64	1131.65	-317.62	100882.46	10684.74
157.72	1481.56	27.07	730.08	-360.96	130292.12	-9771.19
138.32	1459.69	7.62	58.06	-382.83	146558.80	-2917.16
136.45	1818.53	5.75	33.06	-23.99	575.52	-137.94
148.13	2144.59	17.43	303.80	302.07	91246.28	5265.08
106.50	2625.83	-24.2	585.64	783.31	613574.56	-18956.10
$\overline{X}$ = 130.70	$\overline{Y}$ = 1842.52	$\phi(X-\overline{X})$ = 0.03	$\phi(X-\overline{X})^2$ = 2642.29	$\phi\|(Y-\overline{Y})$ X|Z| Ш Λ|	$\phi(Y-\overline{Y})^2$ = 1083129.74	$\phi(X-\overline{X})(Y-\overline{Y})$ = -15832.57

$$r\,(x,y) = \frac{\phi(x-\overline{x})\,(y-\overline{y})}{\sqrt{\phi(x-\overline{x})^2 \cdot (y-\overline{y})^2}} = \frac{-15832.57}{\sqrt{2642.29 \times 1083129.74}} = \frac{-1583257}{53497.13} = -0.29$$

$$\text{P.E.} = \frac{0.6745\,(1-r^2)}{\sqrt{n}} = \frac{0.6745 \times 0.9124}{\sqrt{6}} = 0.25$$

6 P.E. $= 6 \times$ -0.25 = 1.50

Calculation of Correlation between Cash & Bank Balance and Sales

X	Y	$(X-\overline{X})$	$(X-\overline{X})^2$	$(Y-\overline{Y})$	$(Y-\overline{Y})^2$	$(X-\overline{X})\times(Y-\overline{Y})$
391.53	1524.9	81.34	6616.19	-317.62	100882.46	-25835.21
443.31	1481.56	133.12	17720.93	-360.96	130292.12	-48050.99
443.67	1459.69	133.48	17816.91	-382.83	146558.80	-51100.15
101.6	1818.53	-202.59	41042.70	-23.99	575.52	4860.13
98.98	2144.59	-211.21	44609.66	302.07	91246.28	-63800.20
382.05	2625.83	71.86	5163.86	783.31	613574.56	58288.66
$\overline{X} = 310.19$	$\overline{Y} = 1842.52$	$\phi(X-\overline{X}) = 6.72$	$\phi(X-\overline{X})^2$ $= 132970.25_|$	$\phi|(Y-\overline{Y})$ X||ZI H∧|	$\phi(Y-\overline{Y})^2$ $= 1083129.74_|$	$\phi(X-\overline{X})(Y-\overline{Y})$ $= -125637.76|$

$$r(x,y) = \frac{\phi(x-\overline{x})(y-\overline{y})}{\sqrt{\phi(x-\overline{x})^2 \cdot (y-\overline{y})^2}} = \frac{-15832.57}{\sqrt{132970.25 \times 1083129.74}} = \frac{-125637.76}{379504.98} = -0.33$$

$$P.E. = \frac{0.6745(1-r^2)}{\sqrt{n}} = \frac{0.6745 \times 0.89}{\sqrt{6}} = 0.24$$

6 P.E. $= 6 \times -0.24 = 1.47$

Calculation of Correlation between Prepaid& Advance and Sales

X	Y	$(X-\overline{X})$	$(X-\overline{X})^2$	$(Y-\overline{Y})$	$(Y-\overline{Y})^2$	$(X-\overline{X}) \times (Y-\overline{Y})$
51.43	1524.9	-24.78	614.05	-317.62	100882.46	847.97
60.62	1481.56	-15.59	243.05	-360.96	130292.12	-2072.69
104.45	1459.69	28.24	797.49	-382.83	146558.80	4542.48
80.29	1818.53	4.8	16.64	-23.99	575.52	-483.48
104.15	2144.59	27.94	780.64	302.07	91246.28	81.58
56.33	2625.83	-19.88	395.21	783.31	613574.56	670.75
$\overline{X}=76.21$	$\overline{Y}=1842.52$	$\phi(X-\overline{X})=0.01$	$\phi(X-\overline{X})^2$ $=2847.08_|$	$\phi|(Y-\overline{Y})$ Ⅺ|Ⅺ ㎐⅄|	$\phi(Y-\overline{Y})^2$ $=1083129.74_|$	$\phi(X-\overline{X})(Y-\overline{Y})$ $=-4543.37|$

$$r(x,y) = \frac{\phi(x-\overline{x})(y-\overline{y})}{\sqrt{\phi(x-\overline{x})^2 \cdot (y-\overline{y})^2}} = \frac{-4543.37}{\sqrt{2847.08 \times 1083129.74}} = \frac{-4543.37}{55531.59} = -0.08$$

$$P.E. = \frac{0.6745(1-r^2)}{\sqrt{n}} = \frac{0.6745 \times -0.08}{\sqrt{6}} = 0.27$$

6 P.E. $= 6 \times 0.27 = 1.64$

Appendix 13

Calculation of Correlation between Working Capital and Production

X	Y	$(X-\overline{X})$	$(X-\overline{X})^2$	$(Y-\overline{Y})$	$(Y-\overline{Y})^2$	$(X-\overline{X}) \times (Y-\overline{Y})$
180.54	980.16	162.52	26412.75	-220.29	48527.68	-35801.53
9.39	956.15	-8.62	74.30	-244.30	59682.49	2105.87
-184.27	982.76	202.28	40917.19	-217.69	47388.94	-44034.33
-127.80	1259.49	145.81	21260.56	59.04	3485.72	8608.62
-53.18	1387.58	71.19	5068.02	187.13	35017.64	13321.78
283.40	1636.53	265.39	70431.83	436.08	190165.77	115731.27
$\overline{X} = 838.57$	$\overline{Y} = 1200.45$	$\phi(X-\overline{X}) =$ 838.57	$\phi(X-\overline{X})^2$ = 164164.67	$\phi\|(Y-\overline{Y})$ X|ZІ ℍℳ	$\phi(Y-\overline{Y})^2$ = 384268.24	$\phi(X-\overline{X})(Y-\overline{Y})$ = 59931.68

$$r(x,y) = \frac{\phi(x-\overline{x})(y-\overline{y})}{\sqrt{\phi(x-\overline{x})^2 \cdot (y-\overline{y})^2}} = \frac{59931.68}{\sqrt{164164.67 \times 384268.24}} = \frac{59931.68}{251163.83} = 0.24$$

$$\text{P.E.} = \frac{0.6745(1-r^2)}{\sqrt{n}} = \frac{0.6745 \times 0.24}{\sqrt{6}} = 0.26$$

6 P.E. $= 6 \times 0.26 = 1.56$

Appendix 14
Calculation of Correlation between Inventory and Production

X	Y	$(X-\overline{X})$	$(X-\overline{X})^2$	$(Y-\overline{Y})$	$(Y-\overline{Y})^2$	$(X-\overline{X}) \times (Y-\overline{Y})$
184.22	980.16	-87.76	7701.86	-220.29	48527.68	19332.65
229.76	956.15	-42.22	1782.52	-244.30	59682.49	10314.35
256.17	982.76	-15.81	249.96	-217.69	47388.94	3441.68
304.33	1259.49	32.35	1046.52	59.04	3485.72	1909.94
410.11	1387.58	138.13	19079.89	187.13	35017.64	25848.27
247.32	1636.53	-24.66	608.12	436.08	190165.77	-10753.73
$\overline{X} = 838.57$	$\overline{Y} = 1200.45$	$\phi(X-\overline{X}) = 0.03$	$\phi(X-\overline{X})^2$ $= 3046.87$	$\phi|(Y-\overline{Y})$ X|Zl ffiM|	$\phi(Y-\overline{Y})^2$ $= 384268.24$	$\phi(X-\overline{X})(Y-\overline{Y})$ $= 50093.16$

$$r(x,y) = \frac{\phi(x-\overline{x})(y-\overline{y})}{\sqrt{\phi(x-\overline{x})^2 \cdot (y-\overline{y})^2}} = \frac{50093.16}{\sqrt{3046.87 \times 384268.24}} = \frac{50093.16}{34217.18} = 1.46$$

$$\text{P.E.} = \frac{0.6745(1-r^2)}{\sqrt{n}} = \frac{0.6745 \times 1.1432}{\sqrt{6}} = -0.31$$

6 P.E. = 6 × -0.31 = -1.89

Appendix 15
Calculation of Correlation between Debtors and Production

X	Y	$(X-\overline{X})$	$(X-\overline{X})^2$	$(Y-\overline{Y})$	$(Y-\overline{Y})^2$	$(X-\overline{X}) \times (Y-\overline{Y})$
97.06	980.16	-33.64	1131.65	-220.29	48527.68	7410.56
157.72	956.15	27.07	730.08	-244.30	59682.49	-6613.20
138.32	982.76	7.62	58.06	-217.69	47388.94	-1658.80
136.45	1259.49	5.75	33.06	59.04	3485.72	339.48
148.13	1387.58	17.43	303.80	187.13	35017.64	3261.48
106.50	1636.53	-24.2	585.64	436.08	190165.77	-10553.14
$\overline{X} = 130.70$	$\overline{Y} = 1200.45$	$\phi(X-\overline{X}) = 0.03$	$\phi(X-\overline{X})^2$ $= 2642.29_{\mid}$	$\phi\mid(Y-\overline{Y})$ X|ZI EIM|	$\phi(Y-\overline{Y})^2$ $= 384268.24_{\mid}$	$\phi(X-\overline{X})(Y-\overline{Y})$ $= -7813.42\mid$

$$r(x,y) = \frac{\phi(x-\overline{x})(y-\overline{y})}{\sqrt{\phi(x-\overline{x})^2 \cdot (y-\overline{y})^2}} = \frac{-7813.42}{\sqrt{2642.29 \times 384268.24}} = \frac{-7813.42}{31864.53} = -0.25$$

$$P.E. = \frac{0.6745(1-r^2)}{\sqrt{n}} = \frac{0.6745 \times 0.9398}{\sqrt{6}} = 0.26$$

6 P.E. $= 6 \times 0.26 = 1.55$

Calculation of Correlation between Cash & Bank Balance and Production

X	Y	$(X-\overline{X})$	$(X-\overline{X})^2$	$(Y-\overline{Y})$	$(Y-\overline{Y})^2$	$(X-\overline{X}) \times (Y-\overline{Y})$
391.53	980.16	81.34	6616.19	-220.29	48527.68	-17981.39
443.31	956.15	133.12	17720.93	-244.30	59682.49	-32521.22
443.67	982.76	133.48	17816.91	-217.69	47388.94	-29057.26
101.6	1259.49	-202.59	41042.70	59.04	3485.72	-12082.47
98.98	1387.58	-211.21	44609.66	187.13	35017.64	-39523.73
382.05	1636.53	71.86	5163.86	436.08	190165.77	31336.70
$\overline{X} = 310.19$	$\overline{Y} = 1200.45$	$\phi(X-\overline{X}) = 6.72$	$\phi(X-\overline{X})^2$ $= 132970.25_|$	$\phi|(Y-\overline{Y})$ Ⅺ|Ⅻ ⅢⅣⅥ|	$\phi(Y-\overline{Y})^2$ $= 384268.24_|$	$\phi(X-\overline{X})(Y-\overline{Y})$ $= -99766.37|$

$$r(x,y) = \frac{\phi(x-\overline{x})(y-\overline{y})}{\sqrt{\phi(x-\overline{x})^2 \cdot (y-\overline{y})^2}} = \frac{-99766.37}{\sqrt{132970.25 \times 384268.24}} = \frac{-99766.37}{226044.78} = 0.44$$

$$P.E. = \frac{0.6745(1-r^2)}{\sqrt{n}} = \frac{0.6745 \times 0.8052}{\sqrt{6}} = 0.22$$

6 P.E. $= 6 \times 0.22 = 1.33$

Appendix 17
Calculation of Correlation between Prepaid & Advance and Production

X	Y	(X- $\overline{X}$)	(X- $\overline{X}$)^2	(Y- $\overline{Y}$)	(Y- $\overline{Y}$)^2	(X- $\overline{X}$)× (Y- $\overline{Y}$)
51.43	980.16	-24.78	614.05	-220.29	48527.68	5458.79
60.62	956.15	-15.59	243.05	-244.30	59682.49	3808.64
104.42	982.76	28.24	797.49	-217.69	47388.94	-6147.57
80.29	1259.49	4.08	16.64	59.04	3485.72	240.88
104.15	1387.58	27.94	780.64	187.13	35017.64	5228.41
56.33	1636.53	-19.88	395.21	436.08	190165.77	-8669.27
$\overline{X}$ = 76.21	$\overline{Y}$ = 1200.45	ϕ(X- $\overline{X}$) = 0.01	ϕ (X- $\overline{X}$)^2 = 2847.08ı	ϕı(Y- $\overline{Y}$) Xı̇Zı̇ꟼĦMı̇	ϕ (Y- $\overline{Y}$)^2 = 384268.24ı	ϕ (X- $\overline{X}$) (Y- $\overline{Y}$) = -80.12ı

$$r\,(x,y) = \frac{\phi(x-\overline{x})\,(y-\overline{y})}{\sqrt{\phi(x-\overline{x})^2 \cdot (y-\overline{y})^2}} = \frac{-80.12}{\sqrt{2847.08 \times 384268.24}} = \frac{-80.12}{33076.31} = -0.0024$$

$$\text{P.E.} = \frac{0.6745\,(1-r^2)}{\sqrt{n}} = \frac{0.6745 \times 0.9999}{\sqrt{6}} = 0.28$$

6 P.E. = $6 \times 0.28 = 1.65$