

# **WORKING CAPITAL MANAGEMENT OF BOTTLERS NEPAL (TERAI) LTD**

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## **RECOMMENDATION**

This is to certify that the thesis

Submitted by

**Binira Sharma Neupane**

Entitled

## **WORKING CAPITAL MANAGEMENT OF BOTTLERS NEPAL (TERAI) LTD**

Has been prepared as approved by this department in prescribed format of  
Faculty of Management. This thesis is forwarded for Examination

Thesis Supervisor

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Date:

# **VIVA-VOCE SHEET**

We have conducted the viva-voce examination  
of the thesis presented by

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## **WORKING CAPITAL MANAGEMENT OF BOTTLERS NEPAL (TERAI) LTD**

And found the thesis to be to original work of the student and written according  
to the prescribed format. We recommended the thesis to be accepted as partial  
fulfillment for the requirements for

**Master's Degree in Business Studies (M.B.S.)**

### **VIVA-VOCE COMMITTEE**

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## DECLARATION

I hereby declare that this thesis entitled "**Working Capital Management of Bottlers Nepal (Terai) LTD**". Submitted to the Department of Management, Saptagandaki Multiple Campus, Bharatpur is my original work done in the form of partial fulfillment of the requirement for the Master of Business Studies (MBS) under the supervision of lecturer Kapil Dev Subedi, Faculty of Management, Saptagandaki Multiple Campus, Bharatpur.

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March 2013

Researcher  
**Binira Sharma Neupane**

## **TABLE OF CONTENTS**

<b>RECOMMENDATION</b>	<b>II</b>
<b>VIVA-VOCE SHEET</b>	<b>III</b>
<b>DECLARATION</b>	<b>IV</b>
<b>ACKNOWLEDGEMENT</b>	<b>V</b>
<b>TABLE OF CONTENT</b>	<b>VI</b>
<b>LIST OF TABLES</b>	<b>IX</b>
<b>LIST OF FIGURES</b>	<b>X</b>
<b>ACRONYMS</b>	<b>XI</b>

### **CHAPTER – I**

### **INTRODUCTION**

1.1	General Background	1
1.2	Problem Statement	2
1.3	Objectives of the Study	3
1.4	Need and Significance of the Study	3
1.5	Limitations of the Study	4
1.6	Organization of the Study	5

### **CHAPTER – II**

### **REVIEW OF LITRETURE**

2.1	Introduction	7
2.2	Theoretical Framework	7
2.2.1	Concept of Working Capital	7
2.2.2	Working Capital Policy	11
2.2.3	Working Capital Motives	15
2.2.4	Determinants of Working Capital	16
2.2.5	The Cost Trade off	18
2.3	Review of Journals and Articles	19

2.4	Review of Dissertations	25
2.5	Research Gap	31
<b>Chapter- III RESEARCH METHODOLOGY</b>		
3.1	Introduction	32
3.2	Research Design	32
3.3	Population and Sample	33
3.4	Nature and Sources of Data	33
3.5	Data Collection and processing Procedure	33
3.6	Variables of the Study	33
3.7	Tools for Analysis	36
	3.7.1 Financial Tools	37
	3.7.2 Statistical Analysis	41
<b>CHAPTER-IV PRESENTATION AND ANALYSIS OF DATA</b>		
4.1	Introduction	45
4.2	Composition of Working Capital	45
	4.2.1 Composition of Current Assets	45
	4.2.2 Size of Net Working Capital	47
	4.2.3 Net Working Capital Turnover Ratio	49
	4.2.4 Current Ratio	50
4.3	Turnover Position	51
	4.3.1 Inventory Turnover	51
	4.3.2 Receivable Turnover	53
	4.3.3 Ratio of Current Assets to Sales	54

4.4	Ratio of Net Profit to Working Capital	56
4.5	Cash Conversion Cycle	57
4.5.1	Inventory Conversion Period	58
4.5.2	Receivable Collection Period	58
4.5.3	Payable Deferral Period	59
4.6	Profitability Position	62
4.6.1	Gross Profit Margin	62
4.6.2	Net Profit Margin	63
4.6.3	Operating Ratio	63
4.7	Statistical Analysis	64
4.7.1	Correlation Coefficient	64
4.7.2	Regression Analysis	66
4.8	Major Findings	69

## **CHAPTER - V SUMMARY, CONCLUSION AND RECOMMENDATION**

5.1	Summary	72
5.2	Conclusion	73
5.3	Recommendations	73

### **Bibliography**

### **Annexes**

## **LIST OF TABLE**

<b>Table No</b>	<b>Topics</b>	<b>Page No</b>
4.1.	Investment Level in Current Assets Components	46
4.2	Size of Net Working Capital	48
4.3	Net Working Capital Turnover Ratio	49
4.4	Current Ratio	51
4.5	Inventory Turnover Ratio	52
4.6	Receivable Turnover Ratio	53
4.7	Ratio of Current Assets to Sales	55
4.8	Ratio of Net Profit to Working Capital	56
4.9	Inventory Conversion Period	58
4.10	Receivable Collection Period	59
4.11	Payable Deferrable Period	60
4.12	Cash Conversion Cycle	61
4.13	Gross Profit Margin	62
4.14	Net Profit Margin	63
4.15	Operating Ratio	64
4.16	Correlation Analysis of various variables with Working Capital	65
4.17	Regression Analysis of Working Capital with Other Variables	67

## **LIST OF FIGURE**

<b>Figure No</b>	<b>Topics</b>	<b>Page No</b>
2.1	Current Assets Financing Policies under Aggressive approach	13
2.2	Current Assets Financing Policies under Conservative approach	14
2.3	Current Assets Financing Policies Under Moderate approach	15
2.4	Cost Trade- Off	18
4.1	Investment level in current assets components	46
4.2	Size of Net Working Capital	48
4.3	Net Working Capital Turnover Ratio	50
4.4	Inventory Turnover Ratio	52
4.5	Receivable Turnover Ratio	54
4.6	Ratio of Current Assets to Sales	55
4.7	Ratio of Net Profit to Working Capital	57
4.8	Inventory Conversion Period	58
4.9	Receivable Collection Period	59
4.10	Payable Deferrable Period	60
4.11	Cash Conversion Cycle	61

## ACRONYMS

BNTL	=	Bottlers Nepal Terai Limited
BNBL	=	Bottlers Nepal Balaju Limited
MBS	=	Master of Business Studies
TU	=	Tribhuvan University
LTD	=	Limited
PE	=	Public Enterprises
NTDC	=	Nepal Tea Development Corporation
BSFL	=	Birgung Sugar Factory Limited
NLL	=	Nepal Lever Limited
WC	=	Working Capital
NLOL	=	Nepal Lube Oil Limited
NWCT	=	Net Working Capital Turnover
CR	=	Current Ratio
CA	=	Current Assets
CL	=	Current Liability
NP	=	Net Profit
WC	=	Working Capital
CAT	=	Current Assets to Sales
PDP	=	Payable Deferral Period
AC	=	Accounts Payable
COGS	=	Cost of Goods Sold

ICP	=	Inventory Conversion Period
IT	=	Inventory Turnover
RCP	=	Receivable Collection Period
RT	=	Receivable Turnover
CCC	=	Cash Conversion Cycle
GPM	=	Gross Profit Margin
NPM	=	Net Profit Margin
NPAT	=	Net Profit after Tax
OR	=	Operating Ratio
SD	=	Standard Deviation
CV	=	Coefficient of variation
FA	=	Fixed Assets
TA	=	Total Assets

# CHAPTER I

## INTRODUCTION

### 1.1. General Background

The knowledge and importance of the Working Capital Management practices in the present world is tremendously increasing day-by-day, as many companies has gone into liquidation or bankruptcy over the years as a result of running a deficit cash flow from operation. The concept of working capital management is all about the commercial and financial parts of credit, inventory, purchasing, and investment policy, which are crucial aspects for any organizations. Even the companies with sound financial situation might be bankrupt, due to the inefficient management of working capital. Many corporations are forced to lose billions of their value as a result of poor Working Capital Management.

Due to the above reasons, Working Capital is regarded as life blood of any organization whether it is manufacturing or trading. However, the management of working capital is not simple one; with minor mistakes on the decision making about the adequacy of working capital, it can create negative impact on solvency, liquidity and financial stability of the company. As matter of fact, Working Capital Management has been a separate discipline of study area for in-depth and broader idea of the subject matter.

The company should well manage its working capital requirement. In respect to this, Working Capital Management is the decision relating to working capital and short term financing, and this includes managing the relationship between the company's short-term assets and its short-term liabilities. This enables the company to continue operations and to have enough cash flow at its disposal to satisfy both maturing short-term debt and upcoming operational expenses, which is the major objective of working capital management.

Working capital is regarded as the lifeblood of an organization. It is very important for efficient and smooth operation of a business. It is particularly necessary for

creation of goodwill, arrangement of loan, getting benefit of discount, regular supply of materials, increasing morale of management and to face crisis.

The working capital needs of a firm depend upon various factors. These factors may vary from firm to firm and from time to time. Some main factors affecting the requirement of working capital are: nature of business, size of business, manufacturing process, length of production cycle, growth and expansion of business, turnover, terms and conditions of purchase or sale, seasonal nature, dividend policy, operating efficiency etc. The level and quality of working capital is also guided by the policy and attitude of management.

## **1.2 Problem Statement**

Industrialization has become the wheel of modern development. It is the realized fact that expected development without industrialization is distant dream. It is also open fact that industrialization in Nepal is not satisfactory. The problem is more serious in regards of manufacturing companies. Only few companies are working under manufacturing sector and they too are failing to prove their efficiency. In exception, Bottlers Nepal (Terai) Limited is successful to some extent.

Working capital management is the prime determinant of success or failure of the business. Both excessive and inadequate management of working capital is harmful from the viewpoint of profitability and liquidity management. Excessive working capital means company is inefficient to mobilize its valuable funds. It causes the blocking of or tied up capital. It affects profitability. Similarly, inadequate working capital causes production bottleneck. It brings interruption in the production process and negatively affects on company's goodwill or credibility.

Thus, the main problem for the management is to maintain the optimum level of working capital for expected profitability and liquidity. Inefficient management of working capital can have severe impact on the financial health of the company. It can even create situation of bankruptcy. The liquidity risk, solvency risk and unstable financial situation as a result of poor working capital management are never good sign for any company. So, working capital issue is an important aspect that needs to be

addressed for soundness of the company. So, the need of the present study is to observe and evaluate the working capital management.

1. What is the size of working capital in BNTL?
2. What is the composition of working capital in BNTL?
3. Whether the working capital determines profitability of BNTL?
4. Do the working capital is determined by other financial variables like COGS, sales, inventory etc in BNTL?

### **1.3 Objectives of the Study**

The main objective of this study is to examine and analyze the working capital management of Bottlers Nepal Terai Limited. The specific objectives are:

1. To compute the volume of working capital in BNTL
2. To analyze the fluctuation of working capital in BNTL
3. To examine the composition of working capital in BNTL.
4. To find out the effect of working capital on profitability of BNTL
5. To determine the working capital on the basis of other financial variable like sales, current assets, inventory etc in BNTL.

### **1.4. Need and Significance of the Study**

Working capital is essential for managing daily financial affairs of an enterprise. It forms the part of risk management in future. A business firm failing to manage working capital may face serious problems and even some times there is question to its survival and existence. It is indicated from various surveys and study that the largest portion of financial manger's time and effort is to be devoted for current asset management.

Working capital management is a significant part of business decisions and is of major concern to finance manager .A firm is required to carry adequate amount of working capital so as to carry on the production and distribution activities smoothly. Thus, holding adequate amount of raw materials in stock ensures uninterrupted production activity. Likewise, sufficient stock of finished goods has also to be

maintained in anticipation of future demand and for this purpose the firm would need funds. Goods usually sold on credit do not return in cash immediately. The firm will have to arrange funds to finance account receivables for the period until they are collected. Alongside this, a minimum level of cash is required for the ordinary operations of the business opportunities and for absorbing stocks of business vicissitudes. However, these assets will have to be maintained at appropriate level because both surplus and shortage of working capital are detrimental to financial health of enterprise. The excess of current assets is constraint to the all out pursuit of earnings. The lesser the liquid resources held in the firm to satisfy operations requirements, the more can be invested in income-producing fixed assets. This doesn't imply that the firm should reduce the current assets even below the minimum required level because that would mean interrupted production and sales because of frequent stocks outs and inability to sell goods on credit to restrictive credit policy and loss of credit standing in the market owing to failure on the part of the firm to pay creditors in time. The financial manager is, therefore, in dilemma between liquidity and profitability. The finance manager has to manage working capital in such way as to maximize profitability of the firm without impairing its liquidity. This calls for settings optimal level of working capital. Setting optimal level of working capital requires an exercise of determining that level of current assets where total cost of liquidity and cost of non-liquidity is minimum. This is why management of working capital calls for careful attention of the finance manager.

### **1.5 Limitation of the Study**

The industrial culture of Nepal is still not open enough to provide the related data. A thorough investigation and a continuous study of the relevant change are necessary to make such report useful. The following are the limitations of the proposed study.

- i. The study is limited to position of working capital management of BNTL that is only representative of manufacturing enterprises.
- ii. The study will cover the analysis of the working capital position of only 5 years i.e. from 2006/2007 to 2010/2011.
- iii. The study will be solely dependent on the secondary data provided by the management of related companies and other published materials.

- iv. The accuracy of the study will be determined by the authenticity and reliability of data provided by the concerned companies.
- v. The study may not be comprehensive in true sense due to resources and time constraint.
- vi. The findings of the study may or may not be equally applicable to other manufacturing enterprises.

## **1.6. Organization of the Study**

The whole study is divided into the five chapters. Each chapter describes as followings.

### **Chapter I: Introduction**

The introduction chapter deals with the general background of the study, objective of the study, statement of the problem, need and significance of the study and limitations of the study.

### **Chapter II: Review of literature**

This chapter deals with the review of concept and important works done in the relevant field of study. It analyses the problems and findings of studies done by different scholars and experts. This chapter helps to locate the problem yet to be solved and new dimension of the study.

### **Chapter III: Research Methodology**

This chapter deals with the research design, period covered by the study, types and sources of data, tools used for analysis and reporting, research variables and research procedures.

### **Chapter IV: Presentation and analysis of data**

The fourth chapter deals with data presentation and analysis to fulfill the objectives of the study by presenting the data , analyzing and interpretation of the data with the help of various tools followed by methodology and major findings.

## **Chapter V: Summary, Conclusion and Recommendation**

This chapter states the summary of the study, conclusion from the analysis and recommendations for improvement of performances and correction of weaknesses.

## **CHAPTER II**

### **REVIEW OF LITERATURE**

#### **2.1 Introduction**

The working capital management plays the key role in the success and failure of the organization not only in short run but in the long run also. So working capital is a controlling nerve center of business because with the proper control upon it no business organization can run smoothly. As the management of current assets and current liabilities of the business organization is necessary for day to day operation. Hence, the management of working capital in Nepalese manufacturing companies is concerned, a number of studies have been undertaken by different management expert and students of MBS have been describing the working capital management of various enterprises.

The purpose regarding standing this chapter here in this study is to review the available literature on working capital management in the context of the Nepalese manufacturing companies and the available information on BNTL. This information and literature provide the base and inputs to achieve the objectives of this study.

#### **2.2 Theoretical framework**

##### **2.2.1. Concept of working capital**

Every business needs capital for two purposes. The first requirement is for long-term purpose, to create production facility that is called fixed capital. A firm also needs capital to manage its day-to-day needs which is called short-term or working capital.

Generally, the capital required for running day-to-day operation of a business is called working capital. It is concerned with current assets and current liabilities. Asset of an essentially short-term nature is known as current asset. It is a short- term investment. The funds required for purchase of raw materials, payment of wages, stocking of work in progress, raw materials, and finished goods, payment of other daily expenses etc. come under working capital.

According to Weston, J. Fred and Eugene, F. Brigham, “Working capital refers to a firm’s investment in short-term assets: cash, short-term securities, account receivables and inventories. Gross working capital is defined as the firm’s total current assets. Net working capital is defined as the firm’s current assets minus current liabilities. If the term working capital is used without further qualification, it generally refers to gross working capital.”(J.F. Weston, 333) They further state that “the term working capital originated at a time when most industries were closely related to agriculture, producers would buy the crops in fall, process them, sell the finished products and end up just before the next harvest with relatively low inventories. Bank loan with maximum maturity of one year were used to finance both the purchase and the processing costs and these loans were retired with the proceeds from the sale of the finished products.”

Business firms need various types of assets for regular operation. Some assets are required for long term and some others are required specially to meet daily needs and short-term obligations. The assets such as cash, marketable securities, accounts receivables and inventories are required in order to meet daily operating needs. These assets are short-term assets, termed as current assets and they are liquid assets in the sense that they can be liquidated within a period of less than a year. Cash and marketable securities are respectively considered as purely liquid assets and near liquid assets whereas the accounts receivables and inventories are comparatively less liquid. The capital invested in these assets is known as working capital. (*Pradhan, 2000, 173*)

Working capital is regarded as one of the conditioning factors in the long run operations of the firm which is often inclined to treat it as an issue of short run analysis and decision making. Working capital management involves deciding upon the amount and composition of current assets and how to finance these assets.

There are two concepts of working capital: “gross concept” and “net concept”. Gross concept refers to the firm’s investment in current assets. Current assets are the assets which can be converted into cash within a year (accounting year or operating cycle) and include cash, short-term securities, debtors (accounts receivable or book debts), bills receivables and stock (inventory). As per the net concept, net working capital refers to the difference between current assets and current liabilities.

Current liabilities are those claims of outsiders which are expected to mature for payment within an accounting year and include creditors, bills payable and outstanding expenses. Net working capital may be positive or negative. A positive net working capital arises when current assets exceed current liabilities and it is negative when current liability is excess of current assets .(*IM Pandey, 1999, 807-808*)

Working capital management is concerned with the problems that arise in attempting to manage the current assets, the current liabilities and inter relationship that exist between them. The term current assets refer to those assets, which in the ordinary course of business can be or will be, turned into cash within one year without undergoing a diminution in value and without disrupting the operations of the firm. Current liabilities are those liabilities, which are intended at their inception to be paid in the ordinary course of business, within a year, out of the current assets or earnings of the concern. The goal of working capital management is to manage the firm's current assets and current liabilities in such a way that a satisfactory level of working capital is maintained. This is so because if the firm cannot maintain a satisfactory level of working capital, it is likely to become insolvent and may even be forced into bankruptcy. Each of the current assets must be managed efficiently in order to maintain the liquidity of the firm while not keeping too high level of any one of them. Each of the short-term sources of financing must be continuously managed to ensure that they are obtained and used in the best possible way. The interaction between current assets and current liabilities is, therefore, the main theme of the theory of working capital management (*M.Y. Khan & P. K. Jain, 1993*)

The main objective of working capital management is to minimize the cost of maintaining current assets. The cost of maintaining necessary current assets depends upon the size of such assets held. It tries to answer how much working capital is needed for a firm to run its regular activities, what types of financing are appropriate to use for working capital, does the size of need to be changed when the sales or volume of business change. In particular, management of working capital deals with the following aspects ( *S. Pradhan, 2000*).

- a. Size of permanent and seasonal working capital.
- b. Sources of financing – short and/or long term and debt and/or equity financing.
- c. Cost of financing – cost of short-term Vs long- term financing.
- d. Risk associated with types of financing
- e. Maintenance of current ratio minimizing the risk of cash flow problem.

The definitions described above convey in same way or other, the same meaning. They virtually represent the characteristics of the working capital. It seems that there is consensus on the following special characteristics of the working capital (*S Pradhan, 2000*).

1. **Short Life:** Working capital is characterized by assets with a life span of less than a year. The short life span leads to high volatility of the investments as required financing working capital.
  
2. **Nearness to Cash or liquidity:** This basic characteristic constitutes the first line of defense against technical insolvency. Cash is the most liquid assets having zero conversion time and 100% conversion rate. But for inventory and marketable securities, two factors i.e. nearness to cash or amount of time required to convert assets into cash and price realized on conversion must be considered.
  
3. **Lack of synchronization:** since the enterprise cannot produce on order only and cannot insist on cash payments, there is always the problem of synchronization in cash receipts and disbursements. It is also due to the level of investments in working capital that is affected by the sales volume, production policies and collection policies.

The basic characteristics of working capital as mentioned above indicate that it is a term of capital intended to be kept moving or circulating and its potential for earning comes from movements. Though the expenditures cannot be controlled and planned its income is usually subject to random variation and is not controllable.

### **2.2.2 Working capital policy**

Working capital policy involves the adequate level of current asset financing depending upon the policy of the firm. Policy refers to the firm's appropriate level of current assets and similarly working capital policy involves the adequate financing depending upon policy followed by the firm. Working capital involves two basic questions.

1. What is the appropriate level of current assets (both in total and in specific amount)?
2. How should current assets be financed? How current liability will be used to finance current assets?

The working capital policy guides to solve the above questions in the firm. There are two alternate policies as mentioned below:

- a. Current asset investment policies
- b. Current asset financing policies.

#### **(a) Current asset investment policy**

Current asset investment policy involves the three alternative policies regarding the total amount of current asset held. Essentially these policies filter in the amount of current asset as carried to support any given level of sales. The three alternative policies are

- i. Relaxed current asset investment policy (or fat cut policy)
- ii. Restricted current asset investment policy (or lean and mean policy)
- iii. Moderate current asset investment policy.

##### **i. Relaxed current asset investment policy**

According to this policy, the firm holds relatively larger amount of cash, marketable securities, inventories and receivables to support a given level of sales. This policy creates longer inventory and cash conversion cycle. It also creates the longer receivable collection period due to liberal credit policy. Thus this policy provides the lowest expected return on investment with lower risks.

## **ii. Restricted current asset investment policy**

In this policy, the firm holds the minimum level of cash, marketable securities, inventories and receivables to support the given level of sales. This policy is supposed to be riskier than other policies. This policy always tries to reduce the cash conversion cycle. In this policy, the firm follows tight credit policy. The tight credit policy reduces the level of sale. Although the sales decrease in this policy, the financial manager intends to maximize profit by low requirement in investment (low cost and low opportunity cost).

## **iii. Moderate current asset investment policy**

In this policy, firm holds the amount of current assets in between the relaxed and restricted policies. Both risk and return are moderate in this policy. This policy carries a moderate level of current assets to sales. It uses the mid range of short-term and long-term debt of the two policies above.

## **(b) Current asset financing policy**

Deciding how current liabilities should be used to finance current assets is one of the most important decisions concerning working capital management (RS Pradhan, Management of working capital, National book organization, New Delhi,1986) Determining an appropriate financing mix is a matter of risk return trade off. A number of financing mixes are available to financial manager ranging from low liquidity high profitability to high liquidity low profitability policies and his job is to pick up the one that properly balances profitability and liquidity (Gitman, principals of finance, New York, 1088)

There are three methods; aggressive, conservative and matching policies of current asset financing (*IM Pandey, financial management New Delhi,1999*)

### **1. Aggressive Approach**

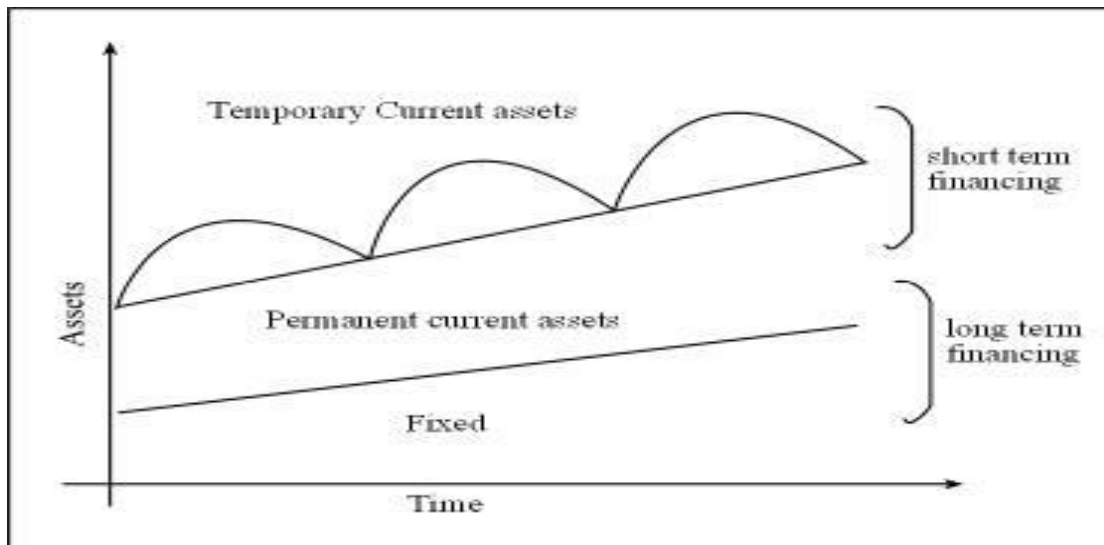
Under the aggressive policy, the firm finances a part of its permanent current assets with short-term financing. Some extremely aggressive firms may even finance a part of their fixed assets with short-term financing. (*IM Pandey financial management, New Delhi,1999*) The manager is said to follow this policy if he depends more on

short-term credit to finance the whole of current assets and part of the fixed assets. Although the short-term financing involves less cost, it is more risky than long term financing. Thus the aggressive financing mix is quite risky leading to high profitability and low liquidity.

This approach relies heavily on long term financing. Therefore, it implies greater liquidity and lower risk of technical solvency, all other things held constant.

**Figure 2.1**

***Current Assets Financing Policies under Aggressive approach***



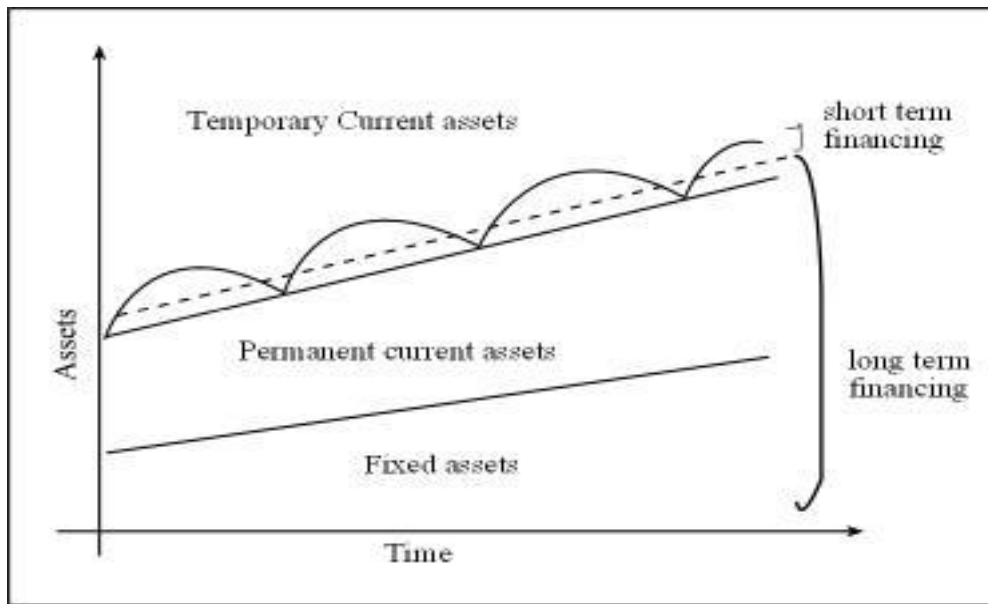
*Source: I.M.Pandey, Financial Management, New Delhi, Vikas Publishing House, Pvt. Ltd*

**2. Conservative Approach**

The financing policy of a firm is said to be conservative when it depends more on long term funds for financing needs. Under this approach, the firm finances its permanent assets and a part of temporary assets with long term financing. This approach restricts the use of short-term funds to only emergency situation or when there is an unexpected outflow of funds (*M.Y. Khan & P. K. Jain, "Financial Management Text and Problems" -1993*). This approach relies heavily on long term financing. Therefore, it implies greater liquidity and lower risk of technical solvency, all other things held constant.

Figure 2.2

***Current Assets Financing Policies under Conservative approach***



Source: I.M.Pandey, *Financial Management*, New Delhi, Vikas Publishing House, Pvt. Ltd

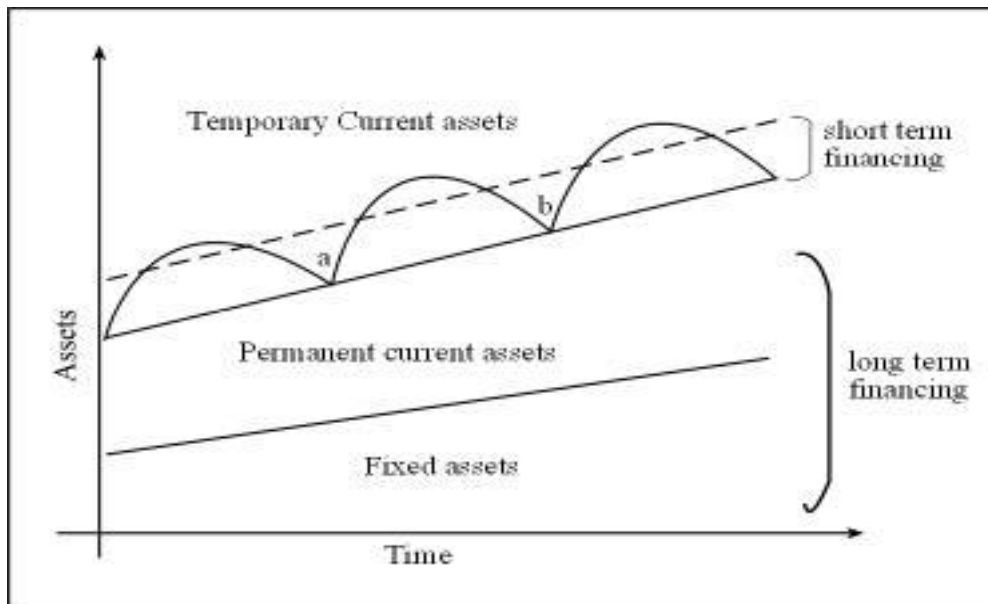
**3. Moderate Approach**

A moderate approach of current asset financing involves making, to extent possible, the maturities of assets and liabilities, so that temporary current assets are financed with short-term non spontaneous debt, and permanent current assets are financed with long term debt or equity plus spontaneous debt.

This approach therefore divides the requirements of total funds into permanent and seasonal components, each being financed by different sources. Moderate working capital policy follows the medium way between aforementioned two extreme policies. This policy helps a firm to consider both profitability and risk with adequate liquidity position.

Figure 2.3

Current Assets Financing Policies Under Moderate approach



Source: I.M.Pandey, *Financial Management*, New Delhi, Vikas Publishing House, Pvt. Ltd

### 2.2.3 Working Capital Motives.

We know that firms aim to maximize the shareholder's wealth. The firm should earn sufficient return from its operation. The extent to which profit can be earned naturally depends upon the magnitude of sales among the other things. For constant operation of business, every firm needs to hold the working capital components-cash, receivable, inventory etc. Therefore every firm needs working capital to meet the following motives.

#### a. The Transaction Motive

Transaction motive require a firm to hold cash and inventories to facilitate smooth production and sales operation in regular basis. Thus, the firm needs working capital to meet the transaction motive.

### **b. The Precautionary Motive**

This motive is the need to hold cash and inventories to guard against the risk of unpredictable change in demand and supply force, and other factors such as strike, failure of important customer, unexpected slowdown of collection of account receivable etc. Thus, business organizations need the working capital to meet any contingencies in future.

### **c. Speculative motive**

This motive refers to the desire of a firm to take advantages of the following opportunities.

1. An opportunity to purchase raw materials at a required price.
2. Opportunities of profit making investment.
3. To speculate on interest rate and
4. To make purchase at favorable price etc.

Thus the firm needs the working capital to meet the speculative motive.

## **2.2.4 Determinants of Working Capital**

The requirement of working capital is determined by various factors. Each factor has different significance. The significance of these factors differs situation to situation. The following are some of the important factors which are involved in a proper assessment of the quantum of working capital requirement.

- i. **Nature of business:** Nature and size of business greatly affect the need of working capital. Greater the size of firm, greater will be the requirement of working capital. Similarly the trading business needs more working capital than that of service type of business.
- ii. **Manufacturing cycle:** A working capital requirement of an enterprise is also influenced by manufacturing or production cycle. It refers to the time involved to make the finished goods from the raw materials. The firms with longer manufacturing cycle need greater amount of working capital.

- iii. **Business fluctuation:** Business in boom stage needs small amount of investment in current assets than the business in recession
- iv. **Credit policy:** Credit Policy also affects the working capital of the firm. Working capital requirement depends on term of sales. Firm with liberal credit policy has to invest more on current assets. Similarly if the firm has better arrangement of credit from suppliers, small investment will be enough.
- v. **Availability of Credit:** Availability of credit facility is another factor that affects the working capital requirements. If the creditors provide liberal credit terms, then the firm will need less working capital and vice-versa. In other words, the firm can get credit facility easily on favorable conditions. Thus, it required less working capital to run the firm smoothly otherwise more working capital is required to operate the firm smoothly.
- vi. **Growth and expansion activities:** The higher the volume and expansion activities, the higher the needs of working capital. It is because of the cost of expansion.
- vii. **Turnover of circulating capital:** How frequently and with rapidity, the working capital is converted into cash also determines the need of working capital. The turnover of the business is determined by the demand and sales policy of the particular enterprise.
- viii. **Price level change:** Rising price level will require a firm to maintain higher level of working capital to meet the need of investing more in current assets in tem of time value due to inflation.
- ix. **Operating efficiency:** it refers to the efficient utilization of at available resources at minimum cost. The lower wastage and higher efficiency will facilitate the firm to manage its short-term financial needs with small investment in working capital.
- x. **Profit Margin:** The level of profit margin differs from firm to firm., it depends upon the nature and quality of product, marketing management and monopoly power in the market. If the firm deals with the high quality product, sound marketing management and has enjoyed monopoly power in the market then it earns quite high profit and vice-versa. Profit is the sources of working capital, because it contributes towards the working capital by generating more internal fund.

**Others:** factors such as coordination between production and distribution activities, conservative dividend policy, liberal depreciation policy etc. strengthen the working capital position of the firm.

### 2.2.5 The cost trade off

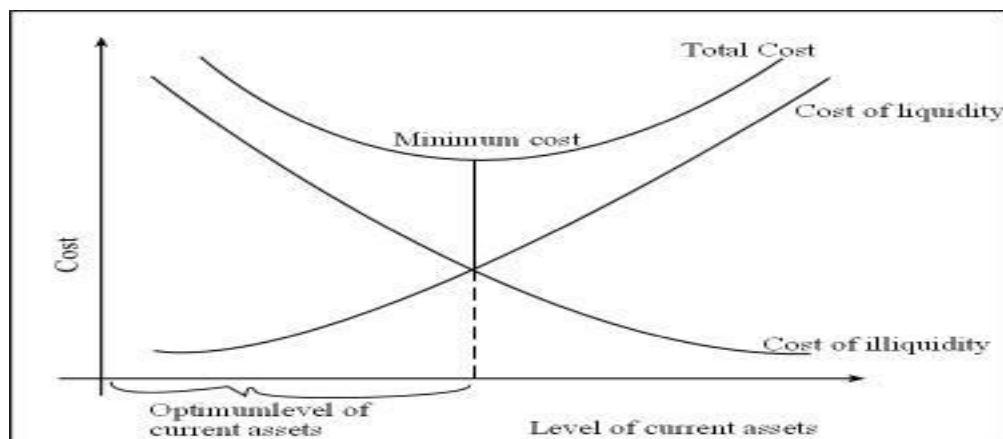
The firm's decision about the level of investment in current assets involves a tradeoff between risk and return. When the firm invests more in current assets it reduces the risk of liquidity but loses the terms of profitability since the opportunity of earning from the excess investment in current assets is lost. Thus the cost of liquidity (through low rate of return) increases with the level of current assets.

Similarly the cost of liquidity is the cost of holding insufficient current assets. The firm will not be in a position to honor its obligations if it carries too little cash. This may force the firm to borrow at higher rate of interest, which adversely affects firm's credit worthiness and threatens solvency of the firm.

In determining the optimum level of current assets, the firm should balance the profitability- solvency tangle by minimizing total costs-the cost of liquidity and cost of illiquidity. The firm should maintain its current assets at that level where the sum of these two costs is minimized. This is illustrated in the following figure:

**Figure 2. 4**

#### **Cost Trade- Off**



Source : I.M.Pandey, *Financial Management*, New Delhi, Vikas Publishing House, Pvt. Ltd

### **2.3. Review of Journals &Articles**

This part is mainly focused on the review of journals and articles published by different management experts in working capital management.

**Shrestha (1983)** has made a study on “working capital management in public enterprises: A case study on financial results and constraints”. In his study ten public enterprises have been taken into account for the analysis. In the study has stated that in public enterprises working capital management is important at least four reasons:

1. Public enterprises must determine the adequacy of investment in current assets otherwise it would seriously erode their liquidity position.
2. They must select the type of current assets suitable for investments so as to raise their operative efficiency.
3. They are required to ascertain the turnover of assets that greatly determine the profitability of public enterprises.

They must find out the appropriate sources of funds used to finance current assets.

Due to these quite obvious reasons he has argued that “Mistakes made in management of working capital can lead to advertisement effects that seriously reduce the liquidity turnover and profitability position of public enterprises.” At the very outset he has pointed out that “there is a growing tendency among public enterprises managers to neglect the vital part of the working capital management.” Although working capital management is so much important yet mistakes are being committed frequently by public enterprises managers’ in its management. He has found through many studies and reports that managers often lack basic knowledge of working capital and its overall impact on the operating efficiency and financial viability of public enterprises. So, he has clearly stated that deficiency of knowledge about working capital concepts has often brought a lot of liquidity crisis which would have been avoided in the presence of knowledge among public enterprise managers.

To evaluate the needs of working his study is based on the assessment or determination of liquidity position, turnover and profitability of sample enterprises. The evaluation has brought into notice the following major facts.

1. Public enterprises have not been in position to chalk out suitable financial planning for determining their working capital needs.
2. The manager of public enterprises fails to give some regards and attention to working capital as they have given fixed capital.
3. There exists no proper consistency between liquidity position and turnover assets. It is surprise that public enterprises with lower turnover have highest liquidity position.
4. Public enterprises have not been in a position to show positive relationship between turnover and return on net working capital.

Keeping in view the above facts he has provided some suggestive measures for the effective operation and efficient results of selected public enterprises of Nepal. These are as follows:

- 1 Public enterprises must forecast need funds by observing the operating activities to support their sales efforts. Changes in the operations of the public enterprise have immediate effects on working capital needed. For undertaking this function, public enterprises should have a separate financial forecasting department managed by person well versed in financial discipline.
- 2 The managers of public enterprises should make regular checks to identify both excess and deficient current assets wherever possible. This helps a lot to avoid tax management of working capital. As for instance, ratio analysis and funds flow analysis can be employed to locate deviations and thereby take steps to improve them.
- 3 Public enterprises should develop appropriate information system by preparing timely reports. However, the costs of acquiring information should be reasonable and whatever information collected must enable public enterprises to accomplish effective management of working capital.
- 4 The public enterprise manager should develop positive attitude towards risk and profits. This can be accomplished only by maintaining proper amount of working capital. They can lower risk if they are in a position to keep extra cash for overcoming the risks of liquidity deficiencies.
- 5 Moreover, public enterprises can gain at all times full profits from operations by keeping an absolute minimum amount of working capital.

- 6 There is an absolute need for public enterprises to finance current assets from the appropriate combination of short and long-term sources. Matching an item of working capital to single, specific sources must be carefully done.

**Pradhan (1986)** has made a research on the management of working capital in nine selected manufacturing PEs of Nepal for the duration of ten years from 1973 to 1982 AD. In this study he states the problem such as what type of policy is being followed by the selected enterprises, whether they are capable to pay their current debtors or not. Similarly, he stated that what sort of structure of working capital is there in selected enterprises. The improvement in working capital utilization has taken place or not and transactions demand for working capital and its various components varies proportionally or less than in proportion of changes in their volume of sales are also the issues of this study .

The major objectives of this study are as follows:

1. To conduct risk return analysis of working capital position.
2. To determine the structure and utilization of working capital.
3. To estimate transactions demand function of working capital and its various components.

The aim of this study is not to develop any theory other than just to have support to examine the underlying financing policy in the selected enterprises. For this he has gone through different studies which are made towards the development of the theory of working capital management by different research scholars. Prof. pradhan, in his study employed ratio analysis, of the available data to reach the goal of the study. The findings and conclusion of the study are as follows:

1. Most of the selected enterprises have been achieving a tradeoff between risk and return, thereby following neither aggressive nor a conservative approach.
2. Almost all the selected enterprises have a positive net working capital. The negative net working capital has been observed in a few cases that are Bricks and tile factory and Nepal Tea Development Corporation. Much of the growth in net working capital at deflated prices has been much lower.

3. The excess of the current liabilities over quick assets shows lack of capability to pay current debts from quick assets.
4. Most of the selected enterprises have current ratios of greater than 2 except brick and tile factory. However, current ratios have declined slowly and steadily over a period of time in the major selected enterprises.
5. This majority of selected enterprises have quick ratio of greater than one, however, these ratios have declined over a period of time.
6. Though most of the enterprises have poor liquidity position, they may still be considered good if the enterprises can generate cash flows sufficient to pay their current debts.
7. The Nepalese manufacturing public enterprises have, on an average, half of their total assets in the form of current assets.
8. Of the different components of the currents, the share of inventories in the total assets, on an average, is the largest followed by receivables, and cash in most of the selected public enterprises?
9. Since the inventory occupies a major share in current assets and its share has increased overtime, Nepalese public enterprises should pay more attention to management of inventories. The largest and increasing share inventories those current assets seen to have become less liquid.
10. The turnover ratio shows that there has been an improvement in utilization of current assets by majority of manufacturing public enterprises of Nepal but this is not the case with net working capital utilization
11. The regression result shows that the level of working capital and its components and enterprises desires to hold depend not only on sales but holding cost also.

Dr K Acharya (1988) Another article is relating to working capital is by which is based on the findings and conclusion. In his Ph D. Thesis, he has focused on the working capital management of Nepal Tea Development Corporation (NTDC) for eight years from 1975/1976 to 1982/83 A.D. He had also made comparison with other five PE. In the study, he found that the net working capital of NTDC was negative due to increase in current liabilities. Of the current assets inventory held the largest portion and it was accumulating in the corporation. It had inventories up to 26 months sales. The size of aggregate receivable of NTDC had also been increasing during the

study period. Cash balances held by corporation were insufficient to meet the outline work of the corporation. At the same time, the liquidity position of NTDC were very poor since current assets were less than current liabilities while comparing to another selected PEs, he found that the turnover of inventory receivables, and current assets in NTDC were below the average, thereby reflecting high investment in each of them imperceptive of the sales mostly below the break even and had incurred variables costs sometimes higher than sales, new credit policy, acting against the delinquent dealers, issue of shares and debenture and obtaining loans from any individuals of financing institutions.

Working capital management in PEs: a case study on financial results and constraints (*Manohar Krishna Shrestha" Working Capital Management in PEs" A study on Financial Results and constraints, ISDOL vol. No. 8*) Shrestha has selected ten PEs and studied their working capital management. He states that managers often lack basic knowledge of WC and its overall impact on the operate efficiency and financial viability of public enterprises. He has focused on the liquidity, turnover and profitability position of sampled enterprises. Based on these factors, he has brought certain policy issues of Nepalese PEs such as lack of suitable financial planning, negligence towards working capital management, deviation of liquidity and turnover of assets, and inability to show positive relationship between turnover and return on net WC. He has also suggested the measures to overcome such policy issues like identification of needed funds, regular checks, development of management information system, positive attitude towards risk and profit, and determination of right combination of short-term and long term sources to finance WC requirements.

Prof. Manohar Krishna Shrestha in his further study," Accounts receivables management" states that account receivables constitutes a PEs of credit policies dominant liquid asset covering significant percentage of investment in current assets. The study clears out that account receivable is connoted with act of waiting assets, payment delaying assets, business creating assets, operationalising assets etc. To provide the conceptual glimpse of account receivable, he has introduced the four conceptual paradigmatic sketch of account receivable i.e. operation concept, payment postponement concept, collection cycle concept, and viability concept. The study points out that the objective focused receivable management is directed towards the

maximization of sales to achieve accelerated increase in profit through defensive measure of overcoming competition. In order to achieve these objectives he has also focused on the determinants of accounts receivables, which serve as the legato of operational funds flow cycle. They are: establishment of credit granting decisions and collection implications. The study suggests the methods of collection and types of credit policies that can be adopted by Public Entreprizes.

“There are two concepts or thoughts of working capital. One school of thought says that working capital is meant for the current assets only. Another school of thought argues that working capital is the excess of current assets over current liabilities. The first school of thought under the sponsorship of Mead, Baker Millets and Field relates with gross working capital and the second school of thought under the leadership of Lincoln, Doris, Stevens and Sailors relates with net working capital.” (*Kuchhal, 1993*)

“The synthesized report on performance of public enterprises in Nepal.” stated that, “The management of working capital has been regarded as one of the contributing factors in decision making issues. It is no doubt, very difficult to point out as how much working capital is needed by a particular company, but it is very essential to analyze and find out the solution to make an efficient use of funds to maximize risk of loss and to attain profit objective.”

“The basic goal of working capital management is to manage the firm’s current assets and current liabilities in such a way that a satisfactory level of working capital is desired by the management of an enterprise because both of these situations will erode the efficiency of the concern.

“There are two concepts of working capital i.e. gross concept and net concept. Gross working capital concept refers to the firm’s investment in current assets whereas net working capital concept refers to the differences between current assets and current liabilities.” (*Pandey, 1999, 807*)

The assets which can be converted into cash within an operating cycle (i.e. one year) are called current assets, whereas current liabilities refer to that part of payables, which should be paid within the any period (i.e. an accounting year). Cash, marketable securities, receivables and inventory constitute the current assets.

In another book, financial management and policy “James C. Van Horne says,” working capital is usually described as involving the administration of these assets namely cash, marketable securities, receivables, inventories and the administration of current liabilities. It means the working capital management is concerned with the problem that arises in attempting to manage current assets, the current liabilities and the inter relationship that exists between them.”

## **2.4 Review of Dissertation**

This study entitled, “working capital management : a case study of balaju textile industries limited”, Rajendra Giri-1986, has found the problems such as low utilization of plan capacity, poor utilization of owner’s fund and insufficient as well as unproductive use of working capital. He has suggested the following problems to be solved.

1. Regular checks to identify shortage or excess of current assets.
2. Arrangement of financing sources for current assets from the appropriate combination of short-term and long-term sources.
3. Formulate marketing strategies and provide incentive scheme to workers to strengthen production capacity.
4. Take actions for disposing of huge inventory, which tie up working capital and involved huge carrying cost and risk of losses.

Gadtaula analysed the financial statement of tea development corporation on his study entitled, " Study on working capital management in Nepal tea corporation". The major findings of his study are as follows; (*Keshab Gadtaula, Unpublished Thesis, 1994, TU. Kathmandu*)

- i. Greater liquidity position due to higher percentage of current assets in total assets.
- ii. Inconsistent current assets in comparison to sales.
- iii. Increasing position of debtors with accumulating inventories.
- iv. Inventory being the largest component of working capital.
- v. Lower working capital turnover ratio indicating its inefficient utilization.

He recommended that inventory should be well managed and inventory budget should be fixed on the basis of actual requirement, inventory norms and demand. Liquidity position should be maintained to lead the firm from minimum current liabilities to maximum sales. He also suggested for effective sales promotion, sound labor or personnel policy and to determine cash holding structure to the operational needs.

Prem Kumar Shrestha has collected the following findings on the basis of his study entitled, "A study on working capital management in Bhrikuti paper mills Ltd." (*Prem Kumar Shrestha Unpublished Thesis, 1994, TU Kathmandu*)

Cash, bank balances, inventories and receivables are the major components of working capital.

1. The trend of current assets with total assets is increasing.
2. Large amount of idle cash balance is the cause of signal of poor management of company.
3. The receivable of the company is increasing due to the lack of definite credit and collection policy.
4. The fluctuating trend of turnover ratios show improper utilization of current assets.

On his study entitled, "study on working capital management in national trading limited", (*Manik Ratna Tamrakar, Unpublished Thesis, 1978, TU Kathmandu*) Tamrakar has found that the firm has very low inventory and high collection period of outstanding debts. He also found that the improper financing of current assets was responsible for low earning capacity. He has concluded from his study that the working capital management of national trading limited, in general, was poor.

Giri (2000), in working capital management in Birgung Sugar-Factory Limited (BSFL). He used ratio analysis as a tool for the purpose of analyzing working capital management in BSFL. He found that as a manufacturing PES, BSFL has followed an approach which is neither aggressive nor conservative.

The amount of current assets with respect to total assets was in fluctuating trend during the period of study from 1995/1996 to 1999/2000. The inventory holds the major part of current assets and indicated the various turnovers indicated that current

assets were not properly utilized in the factory during the period of study. The net profit in regards to total assets were not quite satisfactory. The large volume of idle cash balance has contributed for the lower return on working capital. He recommended the use of proper inventory model. The idle cash balance should be invested in short term securities which maximize the profit.

Mr Giri has used only ratio analysis to study the working capital management in BSFL. He has missed the use of coefficient order to test the relationship and significance in between components working capital.

Gurung, B (2002), has conducted the research on the title of “A Study on Working Capital Management of Nepal Lever Limited (NLL)”. The main objective of that study was to analyze the liquidity composition of WC, assets utilization and profitability of WC, to analyze financing pattern and to examine the relation between liquidity and profitability of NLL. The study covers five year period data and analyzes secondary data by using financial and statistical tools. The main findings of the study were:

1. The major components of current assets are inventories, receivables and prepaid expense where, inventories holds major portion of current assets.
2. The current assets contain more inventory and receivables and there was insignificant relationship between current assets and current liabilities.
3. All the components of current assets in NLL were fluctuating during the study period, which indicate that company did not have any clear vision about the investment of working capital.
4. Current assets investment policy of NLL has been shifted towards the modern policy.
5. The management had not proper policy of maintain the liquidity position and its liquidity was not sound as well.

Pathak (2007) on “an evaluation of working capital management of Nepal Lube Oil Limited (NLOL), Nepal”. He studied the four years data from the 2003/2004 to 2006/2007 from the analysis of working capital management in NLOL. From the analysis he found that lesser participation of fixed assets in total assets. Cash hold

relatively small portion of total assets. The inventory holds the largest portion indicating the unsound inventory management in NLOL, inefficiency in collecting debtors during five years. Unfavorable position of current ratio was also found. The receivables were not affected by sales. The working capital and inventory were affected by sales. From these findings he recommended that the NLOL should determine certain rate of return on its investment and sales target should be set to overcome the problem or perpetual loss. NLOL should check regularly to identify excess and short current assets. Inventory management policy should be adapted to minimizing the huge amount of inventory. Certain target should be set for credit policy and avoid unnecessary increase in the volume of receivable of company should make regular inspection to find out both excess and deficit current assets. It should give attention to manpower planning too.

The major findings the studies on Working Capital Management on Bottlers Nepal Terai Limited carried by Tek Bahadur Shrestha in 2064 are:

1. The proportion of current assets with respect to total assets and net fixed assets shows that the investment in current assets is high. As the higher ratio indicates the greater amount of working capital, the risk and profitability also decrease.
2. There is great fluctuation in the current assets investment policy. It is in decreasing trend in case of BNTL. It is relatively constant in case of BNBL. There is lack of consistency about financing of current assets.
3. The liquidity position of BNTL is better from the point of view of current ratio but it is reversed from the point of view of liquid ratio. The average current ratios are 1.53 and 1.85 and liquid ratios are 0.70 and 0.63 for BNBL and BNTL respectively. However, from the standpoint of industrial standard, both ratios are below standard in both enterprises.
4. The turnover position measures efficiency. The current assets turnover is 1.24 and 1.02 in BNBL & BNTL respectively. It proves improvement of BNTL. The trend of net working capital turnover is consistent up to 4 years of study period. It is drastically changing in year 2005/06 & 2006/07. BNBL is in better position. The inventory turnover ratio is constantly increasing indicating better position of both companies.

Shrestha 2010, study is based on two government Brick Factories: Harisiddhi and Bhaktapur Brick Factory. He found that there is no proper relation in between liquidity turnover and profitability of two brick factories. There is no combination in between fixed capital and working capital. The analysis indicated that the working capital position is totally neglected. He has suggested using financial tools to forecast the working capital. The factories have to keep the record up to date according to standard format. The management must be serious regarding working capital management.

He has analyzed various working capital components through ratio analysis to compose between two brick factories. He has not used correlation coefficient to verify the significance and relation in between the components of working capital.

Thapa N. (2011), The basic objective of this study is to examine working capital management of Gorakhkali Rubber Udyog Limited (GRUL), Nepal. The study focused on the past six year's performance of GRUL. . The specific objectives are;

- a. To examine and appraise various aspects of working capital management of Gorakhkali Rubber Udyog Ltd, Nepal in terms of profitability, liquidity, efficiency and size.
- b. To examine the efficiency of utilizing current assets by the manufacturing public company.
- c. To show the relationship of various items of current assets and current liabilities with sales, profit and net worth.

To meet the objectives of the study, relevant data have been analyzed by using both accounting and financial tools. To examine liquidity position, current ratio and liquidity ratio have been measured. Likewise various components of current assets like cash, receivable, inventory, advances turnover ratio, cash conversion cycle, current assets turnover ratio have been calculated to look over efficiency of the company. The tools viz. correlation analysis, probable error and regression analysis have been used to examine degree and direction between the variables and trend of dependency of sales, profit and company's net worth on the key variable net working capital.

In this study, she found that , The high proportion of current assets to total assets indicates companies conservative policy of financing working capital, however because of huge amount of accrued payables, the size of net working capital is amazingly negative hence the solvency ratios of the company are poor than the standard ratio.

The turnover position of components of currents assets cash and bank, inventories, receivables is very low, which indicates holding of the stock of respective elements in big amounts can affect adversely in amount of sales. It also shows poor utilization of available resources by the company. And inconsistency in inventory conversion and receivable collection period indicates lack of proper working capital management policies adopted by the company. The company has been facing continuous loss over the study period except in fiscal year 2066/067 hence the profitability ratios and return on investment is negligible.

Statistically it's shown that the correlation of investment in working capital between gross profit and net worth of the company significantly associates one another. Likewise regression coefficients explain largely dependency of company's sales, profit and net worth on proper management of working capital.

The proper management of current assets is the basic need of any organization to achieve the primary objective of profit maximization as well as wealth maximization of shareholders. The company selected as sample in this study has not followed any concrete policy or system regarding current assets management. The fluctuation of results over study period proves uncertainty of policies.

The position of current assets investment compared to total assets shows adequacy of working capital, however the large proportion of inventory indicates poor liquidity. On the other hand because of current liabilities excess over current assets shows insolvency of the company to meet short term obligations. Investment in current assets is not so poor. However because of poor management of current assets, it has hindered the company's overall growth. Management has been paying less attention towards improving current assets to get economies of scale. There is changing level of consumption of working capital. This may also be the cause of fluctuation in the policy of current asset financing. But also can be said as uncertainty about its size,

sources, uses and components. This may be due to changing demand of working capital. It lacks clear policy towards working capital management in GRUL. The liquidity, efficiency and profitability ratios of the company have been largely affected by uncertainty of working capital management practices applied the company.

In conclusion, it is drawn that working capital management should be the matter of major concern for manufacturing companies. It should be realized that the success of organization largely depends upon effective management of working capital.

## **2.5 Research Gap**

The above review of literature from various books, journals & articles and dissertation related to working capital management shows that one of the major problems in Nepalese corporation behind unhealthy and unsound position is improper management of working capital. Since success and failure of any enterprises is heavily depend upon the efficient management of working capital. This study also considers that this study attempts to analyze the working capital management of BNTL by taking most recent 5 years data for observation and other available information with the help of various financial and statistical tools. This study could be beneficial to all the concerned parties and people. This study also considers the regression and correlation analysis of study variables with working capital which is newer than other study.

## **CHAPTER III**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

A systematic study needs to follow a proper methodology to achieve the pre stated objectives. Research methodology is a sequential procedure and methods to be adopted in a systematic study. (Kothari, 2000, 19) Research is a careful investigation or inquiry especially through search for new facts in any branch of knowledge. Encyclopedia of social science defines research as the manipulation of things, concepts, or symbols for the purpose of generalizing to extend correct knowledge, whether that knowledge aids in construction of theory or in the practice of an art. The above- mentioned objectives would be fulfilled by well- settled research methodology.

The basic objective of the study as described in the introductory chapter is to examine the management of the working capital in Bottlers Nepal (Terai) Ltd. To achieve the above mentioned objective an appropriate research methodology has to be followed. Therefore, in this chapter, focus has been made on research design, nature of the data, data processing procedures, and tools used for analysis.

#### **3.2 Research Design**

This study is carried out by using both analytical and descriptive analysis, methods. Mostly the secondary data has been used for analysis, but the discussion and personal interview with the concerned employees of the Bottlers Nepal (Terai) Ltd are also used for descriptive analysis. Hence research design for undertaking this study is based on descriptive analytical method. Attempts have been made to describe and analyze the composition of working capital, turnover position, liquidity position and profitability position of Bottlers Nepal (Terai) Ltd for the period of five years ranging from 2006/2007 to 2010/2011.

### **3.3 Population and Sample**

There are 28 listed manufacturing companies all over the country. Out of them only Bottlers Nepal (Terai) Ltd has been chosen for this study. One of the reasons behind choosing BNTL is convenient to collect data.

### **3.4 Nature and Sources of Data**

The data used in this study are basically secondary in nature but the information is collected through discussion and interview with employees, with the reference to the research question design. The secondary data has been collected from annual record, reports and financial statement and unpublished official records of Bottlers Nepal (Terai) Ltd.

### **3.5 Data Collection and Processing Procedure.**

The annual reports are collected for the convenience of the study. Data are also collected from various articles, journals and published as well as unpublished reports from different libraries including T.U. central library and college library. This study is based on secondary data. In this study all the secondary data are arranged, synthesized, tabulated and calculated. The data contained in the condensed income statement and balance sheets have finally been arranged in different tables for the fulfillment of stated objectives and SPSS Software has been used to analyze the statistical data.

### **3.6 Variables of the Study**

To avoid ambiguity, confusion and misunderstanding, the key terms used in this study have been defined as follows:

#### **(I) Current Assets**

It includes the cash and bank balance and those assets which can be converted into cash within a year such as: inventory, debtors or receivables, advances to employees, deposit, prepaid rent and insurance, interest receivable on bonds and other miscellaneous current assets.

## (II) Current Liabilities

All the payment has to be made by the company within an accounting period are included in current liabilities. It includes sundry creditors, provisions for taxation unclaimed dividend, provisions for bonus, housing income tax.

## (III) Working Capital

The term working capital refers to the gross working capital. In other words, it includes total volume of current assets of the company.

## (IV) Net Working Capital

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

## (V) Fixed Assets

It consists of the assets of the company like land and buildings, plant and machinery, furniture and fixtures, long term investments, office equipment, computers and miscellaneous assets related to administration and construction works in progress.

## (VI) Total Assets

It includes the total of current assets, net fixed assets and miscellaneous assets, which includes the capital expenditure in progress.

## (VII) Cash and Bank Balance

It includes the cash in hand and cash at bank.

## (VIII) Receivables

It includes secured debtors and unsecured debtors.

(IX) Inventory

It includes the raw material at cost, scrap raw materials at direct standard cost, work in progress at direct standard cost, stores and spares at cost and finished goods at direct standard cost.

(X) Net Worth

It includes the paid up capital, general reserve and other reserve of the company.

(XI) Sales

Revenue from sale of goods is recognized when the significant risk and rewards of ownership of the goods have passed to the buyer, with the company retaining neither continuing managerial involvement to the degree usually associated with ownership, nor effective control over the goods sold.

(XII) Quick Assets

Quick asset refers to that part of current assets that can be converted in cash immediately. It includes the assets such as cash and bank balance, marketable securities, investment in commercial papers etc that can be converted into cash without any risk of loss. In other words, it represents current assets other than inventories and prepaid expenses.

(XIII) Loan and Advance

Loans and advances are the short-term investments.

(XIV) Cost of Goods Sold

It represents the cost incurred for the products or services before it is disposed of. It includes the costs such as direct material, direct labour, and manufacturing overheads.

(XV) Gross Profit

It is the difference of sales revenue and the cost of goods sold (COGS).

#### (XVI) Net Profit After Tax

It is the excess of income over expenditure that is arrived at after deducting all expenses such as factory overheads, office overheads, selling & distribution overheads and tax.

#### (XVII) Operating Expenses.

It represents other expenses except materials, labour, and overheads. For the present context, it refers to the distribution expenses and administrative expenses.

#### (XVIII) Account Payable.

It is the due amount to be paid on account of the credit purchase. It is also defined as creditors.

#### (XIX) Short Term Financing.

It is the sources of working capital and financing for current assets from current liabilities. In other words, it is the deferred payment to finance current assets investment.

#### (XX) Long Term Financing

It refers to the long-term sources for financing working capital needs such as issue of share, debentures or long-term borrowing from banks.

#### (XXI) Investment

It includes share in other companies and holding of development banks.

### **3.7 Tools for Analysis.**

For the study of the working capital management of specified manufacturing companies, the following financial and statistical tools are employed to achieve the prescribed results.

### 3.7.1 Financial Tools

In financial analysis the research used ratio analysis which establishes the relationship between two variables of the financial statements. Various ratios are employed and grouped for the analysis of composition of working capital, turnover position, liquidity position and profitability position. All these are briefly described below.

#### 3.7.1.1 Composition of Working Capital

To evaluate the financial condition and performance of company, the financial analysis needs certain yardsticks. The yardsticks frequently used are a ratio in relation two pieces of financial data to each other. Experienced and performance of the company from the analysis and interpretation of various ratios from the analysis of financial data. The composition of working capital shows how much proportion is actually maintained in each type of current assets in relation to the total working capital.

##### a) Net Working Capital Turnover Ratio (NWCT)

It is computed by dividing sales by net working capital, i.e. difference of current assets and current liabilities.

$$NWCT = \frac{Sales}{Networking\ Capital}$$

Where,

$$Net\ Working\ Capital = Current\ Assets - Current\ Liabilities$$

Increase in the ratio shows the utilization of net working capital and vice-versa.

##### b) Current Ratio (CR )

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

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

The higher ratio indicates the position of the company is in liquid and able to pay its bills. Generally, the current ratio of 2:1 is considered to be satisfactory. High ratio indicated the greater amount of working capital and lower ratio vice-versa.

c) Net Profit to Working Capital ratio (NP/WC)

$$NP/WC = \frac{\text{Net Profit after Tax}}{\text{WorkingCapital}}$$

This ratio indicates the relationship between the net profit of the firm and its working capital. The change in net profit with associated changes in working capital is the sign of positive relationship between these two variables and vice versa.

d) Ratio of Current Assets to Sales(CAS)

The ratio indicates the number of times the current assets are turned over during the year. It is computed by dividing sales by current assets i.e. gross working capital.

$$CAT = \frac{\text{Current Assets}}{\text{Sales}} \times 100$$

As the ratio increases, it is utilization of current assets. If the ratio is low, a greater volume of working capital is there, low ratio indicates greater working capital and high ratio indicates lower working capital.

e) Payables Deferral Period (PDP)

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

$$\text{Payables Deferrals Period (PDP)} = \frac{\text{Account Payable}}{\text{Cost of goods sold}/360}$$

$$= \frac{\text{Account Payable}}{\text{Daily Cost of Production}}$$

f) Inventory Conversion Period (ICP)

The inventory conversion period is calculated by dividing inventory by the cost of goods sold per day. It is computed as:

$$\text{Inventory Turnover} = \frac{\text{sales}}{\text{Inventory}}$$

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

The inventory conversion period is the average length of time required to convert materials into finished good and then to sell these goods; it is the amount of time the product remains in inventory in various stages of completion.

g) Receivables Collection Period (RCP)

It is calculated by dividing account receivable by the average credit sales per day.

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

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

The receivables collection period is the average length of time required to convert the firm's receivable into cash that is to collect cash following a sale.

h) Inventory Turnover Ratio (IT)

This ratio shows the number of inventory is replaced during the year. Higher inventory turnover indicates the good inventory management and lower turnover suggest the management should manage its inventory properly. It is computed by dividing sales by inventory.

$$\text{(IT)} = \frac{\text{Sales}}{\text{Inventory}}$$

i) Cash Conversion Cycle (CCC)

Cash conversion cycle is the period of recovering of cash investing to purchase raw materials and in paying operating expenses through the sales of finished products. It is

calculated by the help of Inventory Conversion Period, Receivable Collection Period and Payable Deferral Period.

$$\text{Cash Conversion Cycle} = [\text{Inventory Conversion Period} + \text{Receivables Collection Period} - \text{Payables Differed Period.}]$$

$$\text{i.e. CCC} = \text{ICP} + \text{RCP} - \text{PDP}$$

j) Gross Profit Margin (GPM)

It is computed by dividing gross profit by sales. Gross profit is obtained by deducting cost of goods sold from net sales.

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

The gross profit margin ratio reflects the efficiency with which company produces each unit of product. The higher percentage indicates the better efficiency of the company.

k) Net Profit Margin (NPM)

A reasonable gross profit margin is necessary to earn adequate net profits. Net profit is obtained when operating expenses and income tax are subtracted from the gross profit. The net profit margin ratio is measured by dividing net profit after tax by sales.

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

The ratio is overall measurement of the company's ability to earn net profit.

l) Operating Ratio(OR)

The operating ratio is an important ratio that explains the change in the net profit margin ratio. This ratio is computed by dividing all operating expenses, cost of goods sold, selling expenses and general and administrative expenses by sales.

$$\text{OR} = \frac{\text{Cost of Goods sold} + \text{General Expenses}}{\text{Sales}} \times 100$$

Higher operation ratio is unfavorable since it will leave a small amount of operating income to meet interest, dividends etc. The higher ratio indicates the lower operating profit and lower efficiency of the company. So, minimum percentage is preferable.

### **3.7.2 Statistical Analysis.**

Statistical tools are also used for the analysis of this study. Some of the statistical tools used are described below.

#### **3.7.2.1 Mean**

The most popular and widely used measure of representing the entire data by one value is what most laymen call an "average" and what the statisticians call the Arithmetic Mean. Its value is 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 the manufacturing company has been calculated to compare their results. The formula used for calculating mean was as follows:

$$\bar{X} = \frac{\sum X}{N}$$

Where,

$\sum X$  = Sum of the size of the items

N = No. of items

$\bar{X}$  = Mean

#### **3.7.2.2. Standard Deviation (S.D)**

The standard deviation measures the absolute dispersion (or variability) of distribution. The greater the amount of dispersion (or variability) the greater the standard deviation, and the greater will be magnitude of deviations of the values from their mean. A small standard deviation means a high degree of uniformity of the observation as well as homogeneity of a series; large standard deviation means just the opposite. Standard deviation is extremely useful in judging the

representatives of the mean. In this study standard deviation of ratio of public Enterprises has been calculated to analyze the dispersion within the series of ratios of BNTL.

Standard deviation (S.D.) is defined as the positive square root of the mean of the square of the deviations taken from the arithmetic mean. It is denoted by

$$\text{S.D. } \sigma = \sqrt{\sum(X - \bar{X})^2}$$

Where,

X = Value of observation.

$\bar{X}$  = Mean of observations

N = No. of observation

### **3.7.2.3. Coefficient of Variation (C.V)**

The standard deviation as stated above is an absolute measure of dispersion; the corresponding relative measure is known as the coefficient of variation. It is used in such problems where we want to compare the variability of two or more two series. The series for which the coefficient of variation is greater is said to be more variable or conversely less consistent, less uniform, less stable or less homogeneous and vice versa. Since the present study is related with the two series of ratios of corresponding manufacturing public enterprises, coefficient of variation has been calculated to compare the variability of the series of ratios. The formula used for determining the coefficient of variation is as follows:

$$\text{Coefficient of Variation (C.V)} = \frac{\sigma}{\bar{X}}$$

Where,

$\sigma$  = Standard deviation of the observations.

$\bar{X}$  = Mean of observations.

### **3.7.2.4. Correlation Coefficient (r)**

Correlation analysis is the statistical tools generally used to describe the degree to which one variable is linearly related to other variables. Correlation is an analysis of the covariance between two or more variables and correlation analysis deals to determine the degree of relationship between two or more variables. It enables only to determine the degree and direction of relationship or association between the variables. It does not tell about causes and effects relationship between the variables.

The most widely used in practice for calculating correlation coefficient between two variables is Karl Pearson (product moment) correlation coefficient. It can be calculated as:

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \cdot \Sigma y^2}}$$

Where,

$r$  = Correlation coefficient between  $x$  and  $y$ .

$x = (X - \bar{X})$  = Deviation of variable  $X$  with its Arithmetic Mean.

$y = (Y - \bar{Y})$  = Deviation of variable  $Y$  with its Arithmetic Mean.

Interpretation of Correlation Coefficient:

- i. It lies always between +1 and -1.
- ii. When  $r = +1$ , there is perfect positive correlation.
- iii. When  $r = -1$ , there is perfect negative correlation.
- iv. When  $r = 0$ , there is no relationship between the variables.
- v. When  $r$  lies between 0.7 to 0.9999 (-0.7 to -0.9999), there is high degree of positive (or negative) correlation.
- vi. When  $r$  lies between 0.5 to 0.699, there is a moderate degree of correlation.
- vii. When  $r$  less than 0.5, there is low degree of correlation.

### 3.7.2.6. Regression Analysis

The regression analysis is used to estimate the likely value of one variable from the known value of other variable. In regression analysis, a kind of average irreversible

functional relationship is established between the two variables. The cause and effect relationship is clearly indicated through regression analysis then the correlation analysis. In other words regression analysis is mathematical measure of average relationship two or more variables in terms of original unit of data. There are two types of variable in regression analysis one dependent variable and other independent variable. The variable whose value is influenced or it is to be predicted is called dependent variable. The general process of predicting the value of one variable on the basis of known value of another variable is defined as regression analysis. The main objective of regression analysis is to predict or estimate value of dependent variable

$$Y = a + b X$$

Where,

$Y$  = dependent variable.

$a$  = regression constant

$b$  = regression coefficient.

$x$  = independent variable.

## **CHAPTER IV**

### **PRESENTATION AND ANALYSIS OF DATA**

#### **4.1 Introduction**

The previous chapter provides the bases and plan for the analysis and interpretation. This is the heart of the study. The main objective of this chapter is to present and analyze the types of data's, which throw lights on working capital position of Bottlers Nepal (Terai) Limited. For the accomplishment of this objective a definite course of research methodology has been followed. Here the presentation and analysis of data has been made using financial as well as statistical tools.

#### **4.2 Composition of Working Capital**

Working capital is the portion of an enterprises total capital, which is employed in short term operation. Every business organization has to invest its funds on short-term assets like cash, inventories, marketable securities, and receivable to run day-to-day business efficiently and effectively.

The efficient management of current assets is an integral part of overall financial management and has the greater impact on maximization of owner's capital. Thus, it is necessary to have proper analysis for current assets management. The proper analysis of current assets of industrial concern reflects the nature of performance and operation of its management. So the overall current assets are firstly analyzed with the help of following calculations:

##### **4.2.1 Composition of Current Assets.**

Every firm has to maintain the appropriate level of current assets to run the business smoothly and total of which is known as working capital as the gross concept. As stated in earlier, the major components of current assets are inventories, sundry debtors, cash and bank balance, prepaid, advance and loan & deposits.

**Table 4.1**

**Investment Level in Current Assets Components**

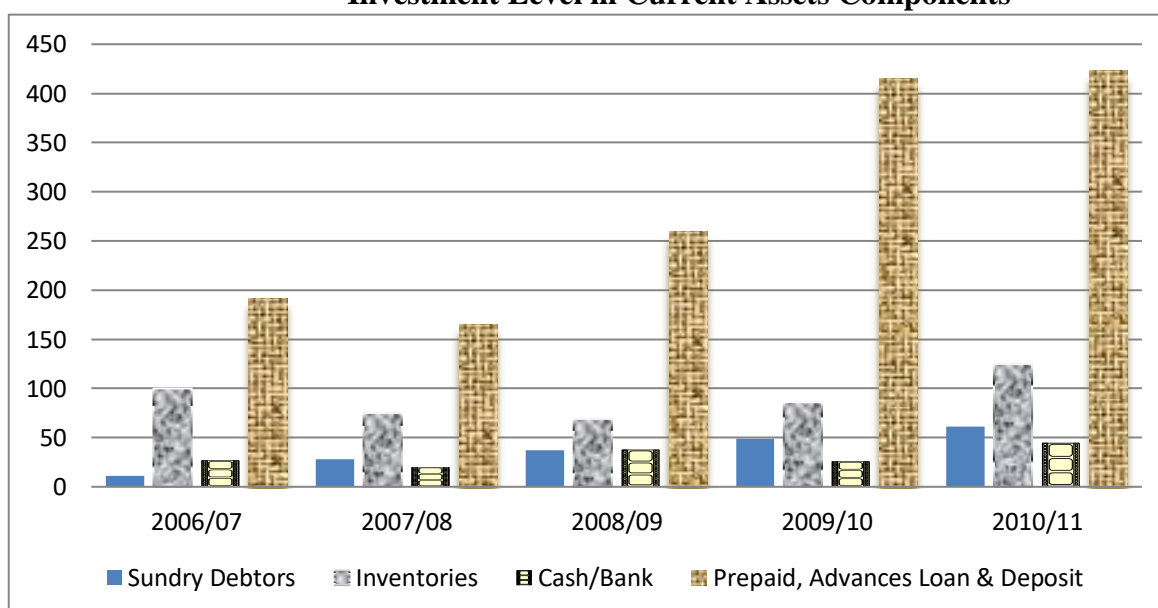
Rs In millions

Fiscal Year	Sundry Debtors		Inventories		Cash/ Bank		Prepaid, Advances Loan & deposit		Total CA
	Rs	%	Rs	&	Rs	%	Rs	%	
2006/07	11	3.34	100	30.40	27	8.21	191	58.05	329
2007/08	28	9.72	75	26.04	20	6.94	165	57.29	288
2008/09	37	9.16	69	17.08	38	9.41	260	64.36	404
2009/10	49	8.51	86	14.93	26	4.51	415	72.05	576
2010/11	61	9.33	125	19.11	45	6.88	423	46.68	654
Average	37.2	8.01	91	21.51	31.2	7.19	290.80	59.68	450.20
S.D	19.21		22.37		10.08		122.10		158.50
C.V	0.52		0.25		0.32		0.42		0.35

Source: Annual Report of BNTL

Figure 4.1

**Investment Level in Current Assets Components**



Source: Table. 4.1

Table 4.1 shows the different components of current assets are sundry debtors, inventory, cash/bank and prepaid advances loan & deposit. The company has 37.20 millions of average debtors which is 8.01% of current assets. The amount of debtors is increasing in every fiscal year. The standard deviation of debtors is Rs. 19.21 million and CV is 0.52 for the study period.

The inventory consist raw material, work in progress and finished goods. The amount of inventory decreases year by year up to fiscal year 2008/09 thereafter increased. The average amount of inventory is Rs. 91 million which is 21.51% of current assets. The SD and CV is Rs. 22.37 million and 0.25 respectively, which is in satisfactory level.

Another component of working capital is cash and bank balance. Cash is required for different motives for the firm, such as transition, precautionary and speculative motives. Every firm has to meet current cash obligation in the ordinary course of business. Similarly cash is required to meet unexpected events such as fire, strike and the failure of important customers. Cash is also required to take advantage of profit making opportunities arising specially from probable change in prices. The table shows Rs. 31.20 million of average cash and bank balance, which is 7.19% of current assets. Similarly the S.D. and C.V. is Rs. 122.10 million and 0.42 respectively.

Another component of working capital is prepaid, advance, loan and deposits. The company has Rs. 290.80 million of average prepaid, advances, loan and deposits, which is 59.68% of current assets. The S.D. and C.V. is Rs. 122.10 million and 0.42 respectively.

#### **4.2.2 Size of the Net Working Capital**

The difference between current assets and current liabilities are known as net working capital, can be positive or negative. Positive net working capital indicates that firm's ability to pay its current obligation and negative working capital indicates its inability to pay its current obligation. The net working capital basically depends upon the nature and size of the business. In case of manufacturing company, the size of working capital is depending upon production cycle and business cycle. Net working capital indicates margin of safety to the creditors. The net working capital of BNTL is computed below

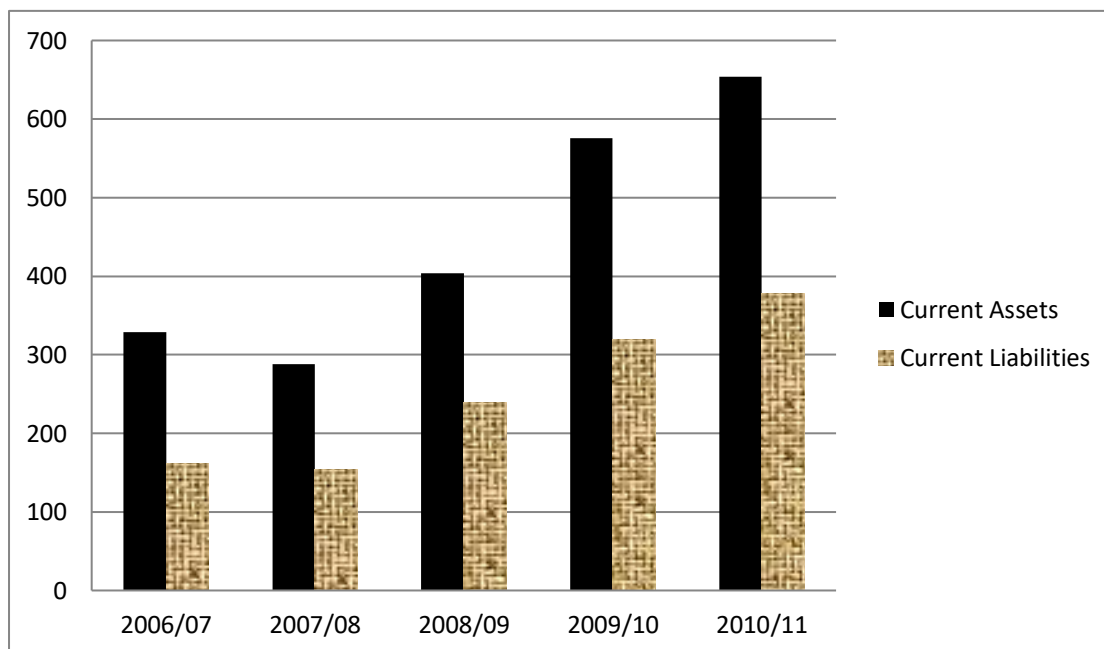
**Table 4.2**  
**Size of Net Working Capital**

Rs In millions			
<b>Fiscal year</b>	<b>Current Assets</b>	<b>Current Liabilities</b>	<b>NWC (CA-CL)</b>
2006/07	329	162	167
2007/08	288	154	134
2008/09	404	239	165
2009/10	576	319	257
2010/11	654	378	276
Average	450.2	250.4	199.8
S.D	158.50	97.76	62.64
C.V	0.35	0.39	0.31

*Source: Annual Report of BNTL*

*Figure 4.2*

**Size of Net Working Capital**



*Source: Table 4.2*

The above table shows the net working capital of BNTL for the study period. The working capital of last year was higher than remaining years. The average net

working capital of the study period was Rs.199.80 million with S.D. of 62.64 and C.V. of 0.31.

#### 4.2.3 Net working capital turnover ratio.

Only investing in working capital is not sufficient, to get good result and return it should efficiently be utilized. The efficiency of working capital utilization is analyzed with the help of turnover ratio.

The turnover ratio measures the degree of effectiveness in use of resources of the company. These ratios reflect the speed of rapidity with which assets are converted in to sales. There is no standard measurement; generally, highest ratio is preferable for the company. The relationship between net working capital and sales is known as Net Working Capital turnover ratio.

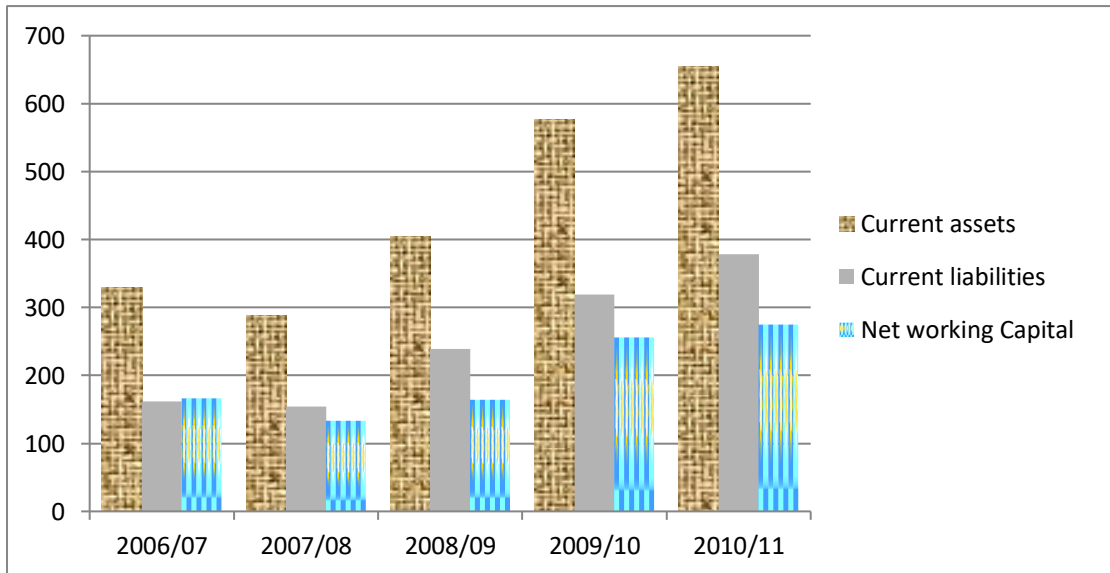
**Table 4.3**  
**Net Working Capital Turnover Ratio.**

Rs In millions

Fiscal year	Sales	CA	CL	NWC (CA-CL)	Ratio
2006/07	485	329	162	167	34.43
2007/08	475	288	154	134	28.21
2008/09	621	404	239	165	26.57
2009/10	845	576	319	257	30.41
2010/11	954	654	378	276	28.93
Average	676	450.2	250.4	199.8	29.71
S.D	215.49	158.50	97.76	97.76	2.98
C.V	0.32	0.35	0.39	0.49	0.10

*Source: Annual Report of BNTL*

*Figure 4.3*  
**Net Working Capital Turnover Ratio.**



*Source: Table 4.3*

The difference between current assets and current liabilities are known, as net working capital can be positive or negative. Positive net working capital indicates that firm's ability to pay its current obligation and negative working capital indicates its inability to pay its current obligation. The net working capital basically depends upon the nature and size of the business. The ratio indicates the number of times the net working capital is turned over during the year. In the table no.4.3, for the first three years ratio are decreasing then after increasing for last two years.

#### **4.2.4 Current Ratio**

Current ratio measures the short run debt paying ability of the firm. It is a simple relationship of current assets to current liabilities. It measures the availability of current assets for meeting current liabilities. Current assets include cash and bank balance, inventory receivables and other miscellaneous current assets. The current liabilities include creditors, unclaimed dividend and miscellaneous current liabilities. The standard ratio is 2:1 for measurement.

The current assets ratio is calculated and tabulated below:

**Table . 4.4**  
**Current Ratio**

Rs In millions

<b>Fiscal year</b>	<b>Current Assets</b>	<b>Current Liabilities</b>	<b>Ratio in Times</b>
2006/07	329	162	2.03
2007/08	288	154	1.87
2008/09	404	239	1.69
2009/10	576	319	1.81
2010/11	654	378	1.73
Average	450.2	250.4	1.83
S.D	158.50	97.76	0.13
C.V	0.35	0.39	0.07

*Source: Annual Report of BNTL*

The above table 4.4 shows the current ratio of the company in the fiscal year 2006/07 was quite nearly to the standard ratio which is 2.03 times and the ratio of remaining years were less than the standard ratio. The ratio of the 2006/07 was quite good for the company. The SD and CV of ratio were 0.13 and 0.07 respectively.

### **4.3 Turnover Position**

Turnover ratio measures the degree of effectiveness in use of resources of the company. The efficiency of working capital utilization is analyzed with the help of turnover ratios. These ratios reflect the speed with which assets are converted into sales. There is no standard measurement, but generally highest ratio is preferable for the company. The turnover position of BNTL is analyzed in terms of current assets; inventory turnover, receivable turnover etc.

#### **4.3.1 Inventory Turnover Ratio**

The relationship between sales and stock is known as inventory turnover ratio. This ratio evaluates the efficiency of a company for the inventory management. Inventory is the most important component of current assets of the company. The company should maintain proper and effective inventory management. Inventory turnover ratio indicates the number of times inventory is replaced during the year. The working

capital, production and sales activities of the company are correlated each other. The production volume should be increased to meet the higher level of sales target. To meet the higher level of sales, more and more raw materials will be required to support the production activities. Therefore, the inventory level of raw materials, work in process, and finished goods should be properly maintained and managed. The inventory turnover position of BNTL is computed and tabulated below.

**Table 4.5**  
**Inventory Turnover Ratio**

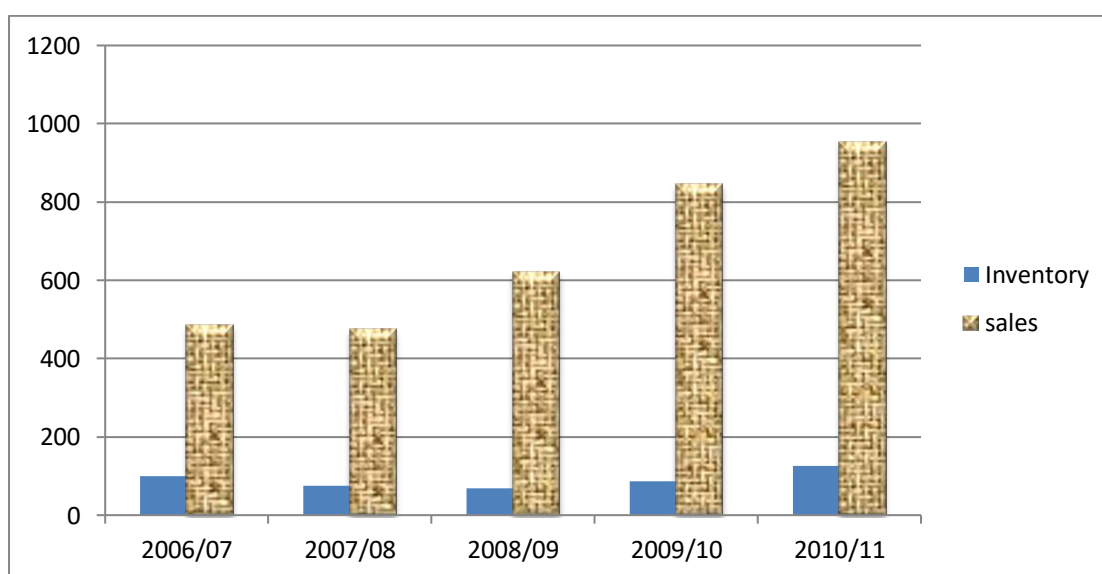
Rs In millions

Fiscal year	Inventory	sales	Ratio in Times (Sales/Inventory)
2006/07	100	485	4.85
2007/08	75	475	6.33
2008/09	69	621	9.00
2009/10	86	845	9.83
2010/11	125	954	7.63
Average	91	676	7.53
S.D	22.37	215.49	2.00
C.V	0.25	0.32	0.26

Sources: Annual Report of BNTL

Figure 4.5

**Inventory Turnover Ratio**



Source: Table 4.5

The above table shows that the Inventory Turnover Position was in increasing continuously but the position in the fiscal years 2008/09 to 2009/10 was quite higher. The average of ratios of study period was 7.53 with S.D. of 2.00 and C.V. 0.26.

#### 4.3.2 Receivable Turnover Ratio

Receivables are one of the components of working capital. To increase business activity the company has to increase the sales volume. The sales volume can be increased by selling product in credit to the customers, which creates the receivables. The receivables measure the relationship between credit sales and collection period. The company should maintain proper and effective receivable management. Receivable turnover ratio indicates the number of times receivable is being collected during the year

**Table 4.6**  
**Receivable Turnover Ratio**

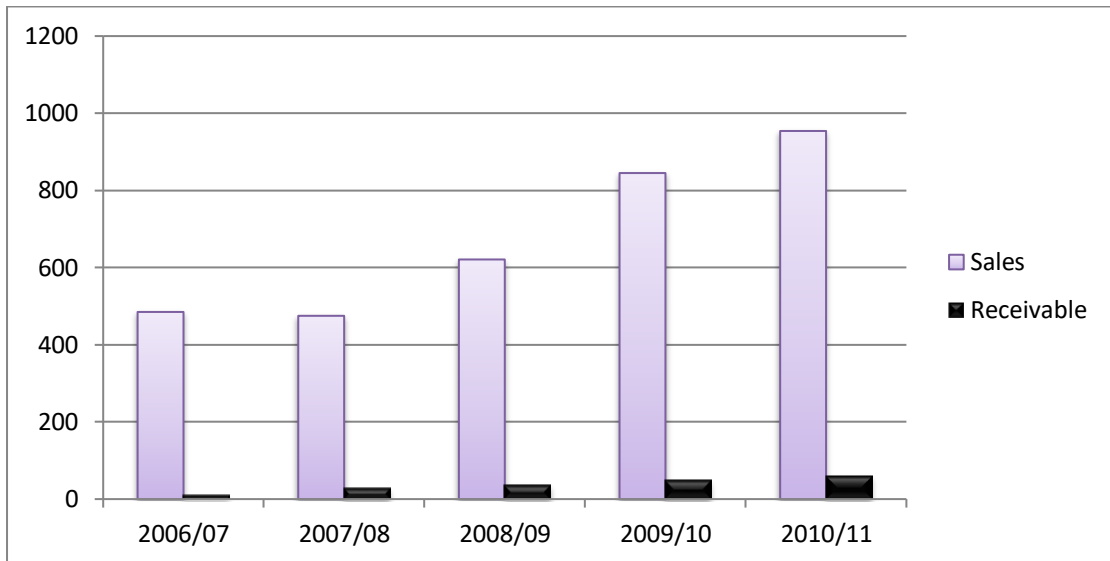
Rs In millions

<b>Fiscal year</b>	<b>sales</b>	<b>Receivable</b>	<b>Ratio in times</b>
2006/07	485	11	44.09
2007/08	475	28	16.96
2008/09	621	37	16.78
2009/10	845	49	17.24
2010/11	954	61	15.64
Average	676	37.20	22.14
S.D	215.49	19.21	12.28
C.V	0.32	0.52	0.55

*Sources: Annual Report of BNTL*

Figure 4.6

**Receivable Turnover Ratio**



Source: Table 4.6

The table number 4.6 shows that the receivable turnover positions of the company. The receivable turnover was good in first year rather than in remaining years. Receivable turnover is in increasing ratio which is favourable for the company. We can see that the management of receivable is being better.

**4.3.3 Ratio of Current Assets to Sales**

Sales generate fund from outside. So it is one of the most integral activities of manufacturing industry like BNTL. The survival and growth in every manufacturing company depend on the proportion of sale of the products they produce. The company's sales policy depends upon the available resources and demand. It is also greatly affected by the production policy. Production policy of the company is affected by financial policy and their strategic planning. Therefore, the coordination between those elements of the company is most important. This activity requires the company investment in current assets to support the given level of sales. The amount of investment on current assets supports the given level of sales, which depends upon the current assets investment policy and the attitude of management. When a firm holds relatively large amount of current assets to support a given level of sales is called conservative investing policy. When a firm holds relatively minimum amount

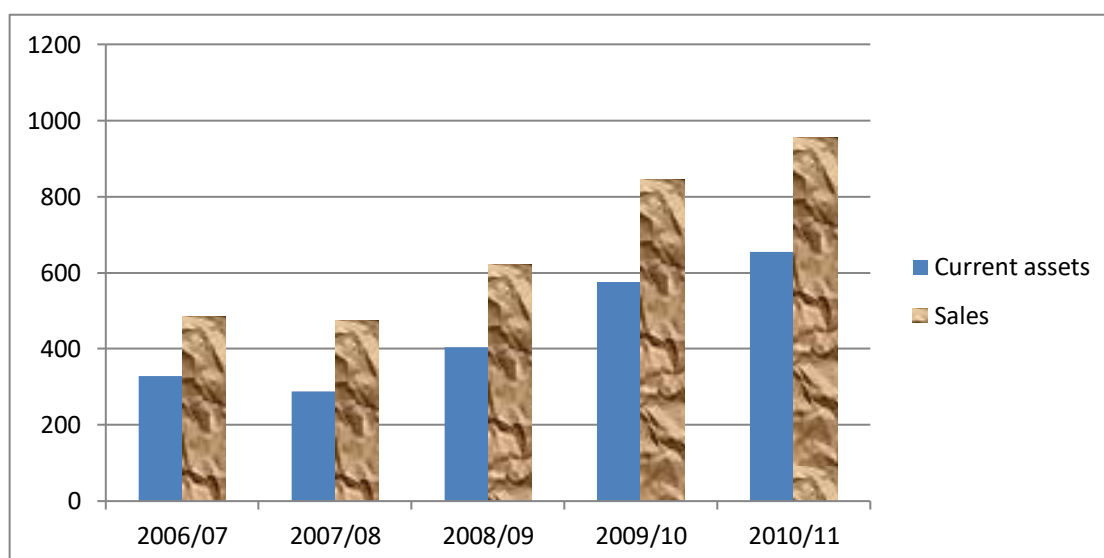
of current assets to support a given level of sales is called aggressive investing policy. For the purpose of analysis of investment policy in current assets, analysis of current assets to sales was used.

**Table 4.7**  
**Ratio of Current Assets to Sales**

			Rs In millions
<b>Fiscal year</b>	<b>Current Assets</b>	<b>Sales</b>	<b>CA/Sales*100</b>
2006/07	329	485	67.84
2007/08	288	475	60.63
2008/09	404	621	65.06
2009/10	576	845	68.17
2010/11	654	954	68.55
Average	450.20	676	66.05
S.D.	158.50	215.49	3.33
C.V.	0.35	0.32	0.05

*Source: Annual Report of BNTL*

**Figure 4.7**  
**Ratio of Current Assets to Sales**



*Source: Table 4.7*

The Table 4.7 shows the relationship between current assets and sales of BNTL. The ratio between current assets and sales is fluctuating. The amount of current assets is lower than sales in every year so the ratio is less than 100% where average current

asset is Rs. 450.20 million and an average sale is Rs. 676 million. The S.D. of current assets and sales is Rs. 158.50 and Rs. 215.49 million respectively. The S.D. of current assets is higher which is not good for the company. The C.V. of current assets and sales is 0.35 and 0.32 respectively. During the study period it varies from 67.84% to 68.55%. The ratio between sales and current assets is decreased in year 2008/09 thereafter increased during research period. The lowest proportion 60.63% in the fiscal year 2008/09, but the proportion is 68.55% in the fiscal year 2010/11. These facts revealed that the company is following conservative investing policy.

#### 4.4 Ratio of Net Profit to Working Capital.

This ratio indicates the relationship between the net profit of the firm and its working capital. The change in net profit with associated changes in working capital is the sign of positive relationship between these two variables. And if there is not any change in net profit with associated changes in working capital is the sign of negative relationship between these two variables. The Net Profit to Working Capital ratio for BNTL is calculated and tabulated below,

**Table 4.8**  
**Ratio of Net Profit to Working Capital**

Rs In millions

<b>Fiscal year</b>	<b>Net Profit</b>	<b>Net working Capital</b>	<b>Ratios(NP/NWC)</b>
2006/07	25	167	0.15
2007/08	14	134	0.10
2008/09	79	165	0.48
2009/10	133	257	0.85
2010/11	147	276	0.53
Average	79.60	199.80	0.42
S.D.	60.58	62.64	0.31
C.V.	0.76	0.31	0.73

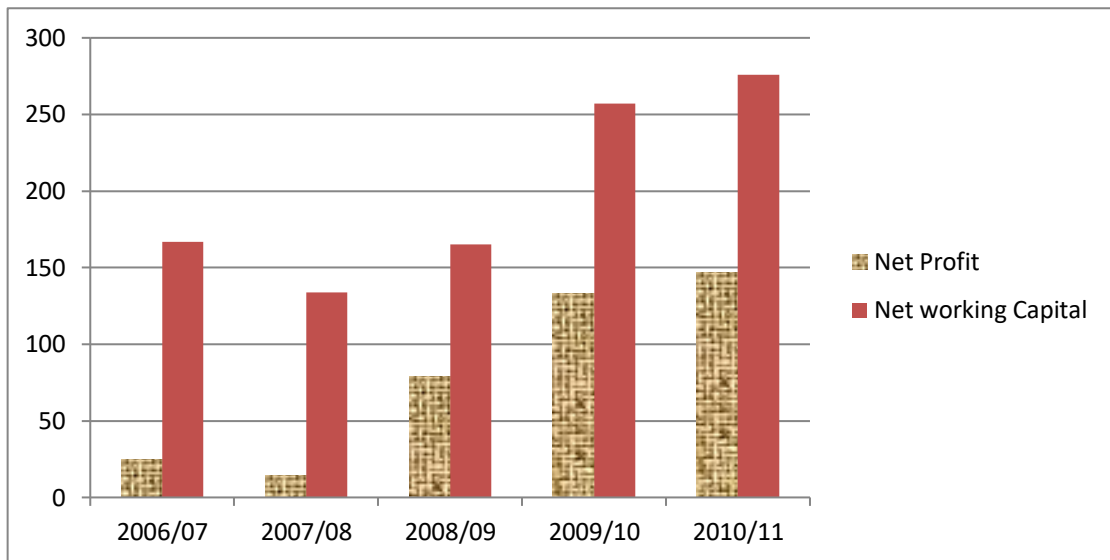
*Source: Annual Report of BNTL*

The above table 4.8 shows the ratio of net profit to working capital. As the net working capital increases the amount of net profit also increases and the ratio too. So

the relationship between net profit and net working capital is positive. The average of the ratio of net profit to working capital is 0.42 S.D. of the ratio is 0.31 and C.V.is 0.73.

Figure 4.8

**Ratio of Net Profit to Working Capital**



Source: Table 4.8

**4.5 Cash Conversion Cycle**

A helpful way to look at the cash flow of the firm is to analyze the firm's cash conversion cycle. A cash conversion cycle reflects the net time interval in days between actual cash expenditures of the firm on productive resources and ultimate recovery of cash. The cash conversion cycle is a quick and convenient way to analyze the ongoing liquidity of the firm over the time.

$$\text{Cash Conversion Cycle} = [\text{Inventory Conversion Period} + \text{Receivables Collection Period} - \text{Payables Differed Period.}]$$

i.e.  $CCC = ICP + RCP - PDP$

Cash conversion cycle is the period of recovering of cash investing to purchase raw materials and in paying operating expenses though the sales of finished products. It is calculated by the help of Inventory Conversion Period, Receivable Collection Period and Payable Deferral Period which are computed as below.

#### 4.5.1 Inventory Conversion Period

The Inventory Conversion Period is computed below.

**Table 4.9**  
**Inventory Conversion Period**

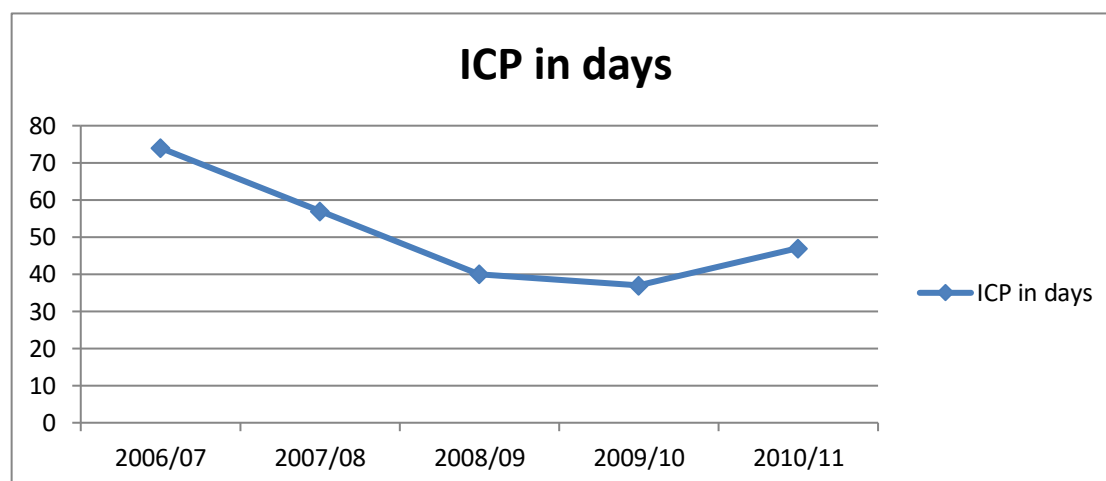
Rs In millions

Fiscal year	Inventory	Sales	Inventory Turnover Ratio	ICP in days
2006/07	100	485	4.85	74
2007/08	75	475	6.33	57
2008/09	69	621	9.00	40
2009/10	86	845	9.83	37
2010/11	125	954	7.63	47
Average	91	676	7.53	51
S.D	22.37	215.49	2.00	14.98
C.V	0.25	0.32	0.26	0.26

Sources: Annual Report of BNTL

Figure:4.9

**Inventory Conversion Period**



Source: Table 4.9

The above table shows that the average Inventory Conversion Period for the study period was 51 days. The S.D. and C.V. of ICP were 14.98 and 0.26 respectively.

#### 4.5.2 Receivable Collection Period

Receivable Collection Period of the company is calculated and tabulated below.

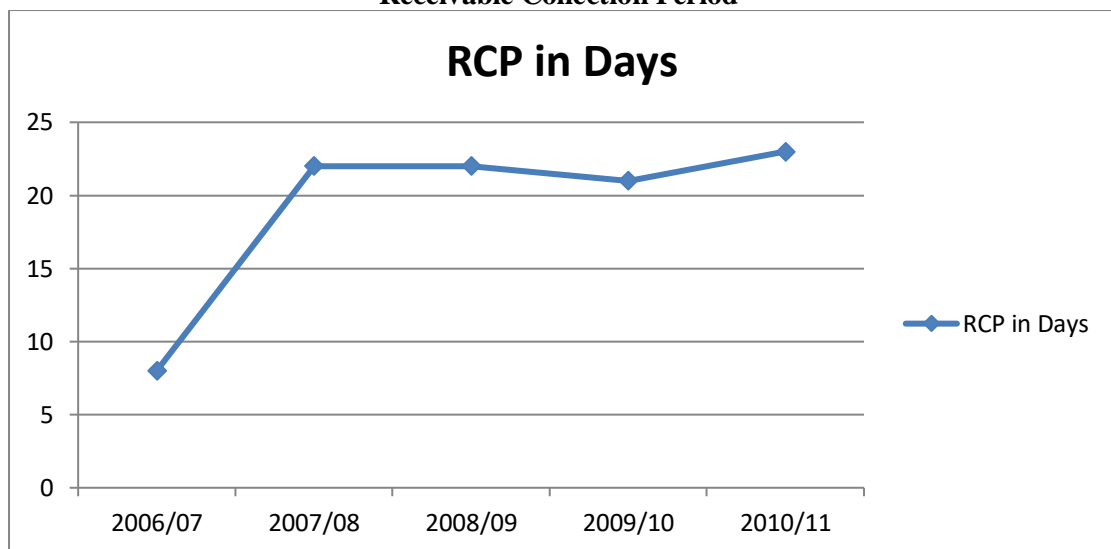
**Table 4.10**  
**Receivable Collection Period**

Rs In millions

Fiscal year	sales	Receivables	RCP in Days
2006/07	485	11	8
2007/08	475	28	22
2008/09	621	37	22
2009/10	845	49	21
2010/11	954	61	23
Average	676	37.20	19.2
S.D	215.49	19.21	6.30
C.V	0.32	0.52	0.32

*Sources: Annual Report of BNTL*

**Figure4.10**  
**Receivable Collection Period**



*Source: Table 4.10*

The above table number 4.9 shows the receivable collection period of the company. The receivable period for the study period was 19 days. In this study period, there was deviation in RCP. The S.D and C.V. were 6 days and 0.32 respectively for this study period.

#### **4.5.3 Payable Deferral Period.**

Payable Deferral Period for the Bottlers Nepal Terai LTD is calculated and tabulated as below:

**Table 4.11**  
**Payable Deferral Period**

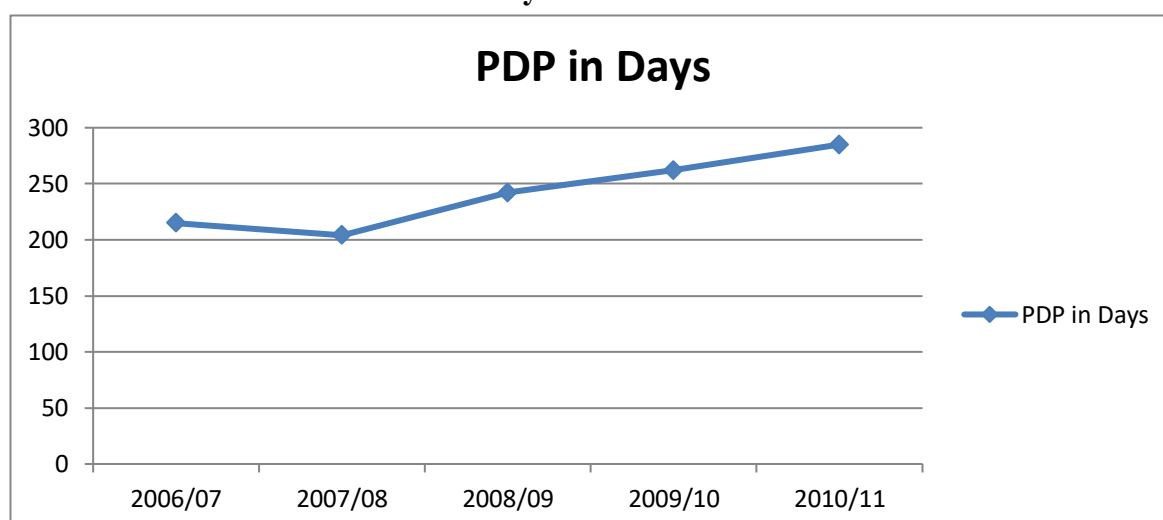
Rs In millions

<b>Fiscal year</b>	<b>COGS</b>	<b>Account Payable</b>	<b>PDP in Days=(AP/COGS)*365</b>
2006/07	260	153	215
2007/08	251	140	204
2008/09	327	217	242
2009/10	406	291	262
2010/11	448	350	285
Average	338.4	230.2	241.6
S.D	87.32	89.89	33.25
C.V	0.26	0.39	0.14

*Sources: Annual Report of BNTL*

Figure 4.11

**Payable Deferral Period**



*Source: Table 4.11*

The Table 4.11 shows that the average of Payable Deferred Period of BNTL for the study period was 241 days which was greater than RCP. The SD and C.V. of PDP for the study period were 33 and 0.14 respectively. With the help of Inventory Conversion Period, Receivable Collection Period and Payable Deferred Period, the Cash Conversion Cycle is calculated and tabulated below.

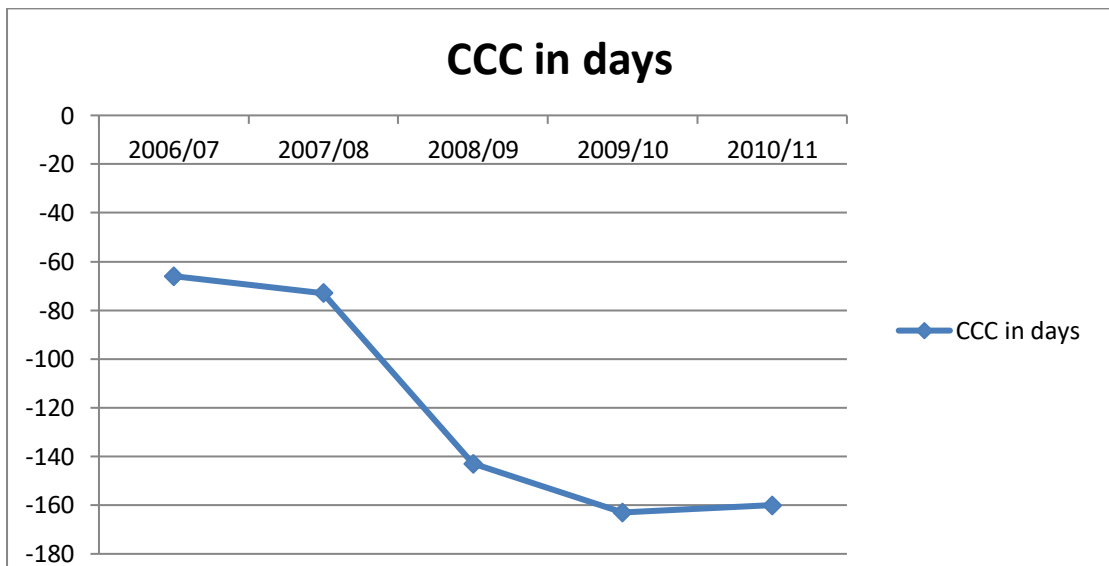
**Table 4.12**  
**Cash Conversion Cycle**

Rs In millions

<b>Fiscal year</b>	<b>ICP in days</b>	<b>RCP in days</b>	<b>PDP in Days</b>	<b>CCC in days</b>
2006/07	140	8	215	-66
2007/08	109	22	204	-73
2008/09	77	22	242	-143
2009/10	77	21	262	-163
2010/11	102	23	285	-160
Average	101	19.20	241.6	-121
S.D	26	6.30	33.25	47.69
C.V	0.26	0.33	0.14	-0.39

*Sources: Annual Report of BNTL*

*Figure 4.12*  
**Cash Conversion Cycle**



*Source: Table 4.1*

The Table 4.12 shows that the Cash Conversion Period of the company. The Cash Conversion Period was in decreasing trend. The average off CCP of the company for the study period was -121 days and S.D. was 48 days. Although there is no any standard measurement, low cash conversion cycle is preferable. The CCP for the period first year was comparatively not good than remaining years.

#### 4.6 Profitability Position

Profit earning is the main objective of every business concern. They want to earn maximum profit or getting maximum return on investment. An ability to earn maximum profit from maximum use of available sources by the business organization is known as profitability. Profitability is the measure of efficiency and the search for it provides an incentive to achieve efficiency. The profitability position of a company can be measured by its profitability ratios, such as gross profit margin, net profit margin, operating ratio, return on total assets, return on net worth and return on working capital etc. The profitability position of the company is calculated and tabulated below

##### 4.6.1 Gross Profit Margin

Gross profit margin expresses the relationship between gross profit and sales. It is the profit which is obtained by deducting cost of goods sold from the net sales. This ratio measures the efficiency of the company and soundness of the management. A low ratio reflects the higher cost of goods sold due to the company's inability to purchase at favorable terms. The gross profit margin of BNTL is calculated and tabulated below.

**Table 4.13**  
**Gross profit margin**

Rs. In millions			
<b>Fiscal year</b>	<b>Cross profit</b>	<b>Sales</b>	<b>Ratio in %</b>
2006/07	225	485	46.39
2007/08	224	475	47.16
2008/09	294	621	47.34
2009/10	439	845	51.95
2010/11	506	954	53.04
Average	337.60	676.00	49.18
S.D	128.57	215.49	3.08
C.V.	0.38	0.32	0.06

*Sources: annual report of BNTL*

The Table 4.13 shows that the margin of gross profit is looking same in every year of study. There was not much S.D. i.e. just 3.08 and C.V. was also just 0.06. The company maintained the same profit margin almost every year. The average of gross profit margin for the study period was 49.18%.

#### 4.6.2 Net profit Margin

Net profit is the profit which comes after deducting all the expenses from gross profit. Net profit margin indicates the management ability to operate the business with sufficient success. Higher profit is good for the company. The net profit margin of the BNTL is calculated and tabulated below.

**Table 4.14**  
**Net profit Margin**

Rs. In millions			
<b>Fiscal year</b>	<b>Net profit</b>	<b>Sales</b>	<b>Ratio in %</b>
2006/07	25	485	5.15
2007/08	14	475	2.95
2008/09	79	621	12.72
2009/10	133	845	15.74
2010/11	147	954	15.41
Average	79.60	676.00	10.39
S.D.	60.58	215.49	5.96
C.V.	0.76	0.32	0.57

*Sources: annual report of BN TL*

The Table 4.14 shows the net profit and profit margin on sales. The company suffered from loss before fiscal year 2006/07 but thereafter earned profit for the study period. The average of profit and profit margin on sales were Rs. 79.60 million and 10.39% respectively. The S.D. and C.V. of net profit margin for the study period are 5.96 and 0.57 respectively.

#### 4.6.3 Operating Ratio

The operating ratio measures the efficiency of the company as regards to minimizing costs. The operating ratio establishes the relationship between total operation expenses and sales volume. It is an important ratio and explains the changes in the net profit margin ratio. Operating ratio is an indicator of operational efficiency. The operating ratio of BNTL is calculated and tabulated below.

**Table 4.15**  
**Operating Ratio**

Rs. In millions

<b>Fiscal year</b>	<b>Operating exp.</b>	<b>Sales</b>	<b>Ratio in %</b>
2006/07	429	485	88.45
2007/08	436	475	91.79
2008/09	509	621	81.96
2009/10	656	845	77.63
2010/11	758	954	79.45
Average	557.60	676.00	83.86
S.D.	144.51	215.49	6.04
C.V.	0.26	0.32	0.07

*Sources: annual report of BN TL*

The Table 4.15 shows that the ratio of operating expenses to sales. There was not much deviation in operating expenses and operating ratio. The average of operating ratio for the study period was 83.86% that mean the 83.86% of sales was investing in operating expenses. The S.D. and C.V. of the operating ratio for the study period were 6.04 and 0.07 respectively.

## **4.7 Statistical Analysis**

### **4.7.1 Correlation Coefficient (r)**

The financial performance of the manufacturing company is directly related to their ability to manage working capital management efficiently and effectively. The use of the financial tools was already given adequate in showing the analysis of various variables to determine the working capital management. But to make the analysis more fruitful and weighty, certain statistical tools such as correlation analysis and regression analysis are used to show the relationship between the following variables.

**Table 4.16**

**Correlation analysis of various variables with working capital**

<b>Variables</b>	<b>Correlation coefficient ( r )</b>	<b>Coefficient of determinants(<math>r^2</math>)</b>	<b>Remarks</b>
Net Profit	0.942	0.888	Significant
Sales	0.968	0.937	Significant
Current Assets	0.982	0.916	Significant
Gross Profit	0.972	0.677	Significant
COGS	0.957	0.945	Significant
Receivable	0.823	0.963	Significant

*Sources: ANNEX-I*

**a. Relationship between net working capital and net profit**

The correlation coefficient (r) between net working capital and NP is 0.942 and coefficient of determinants( $r^2$ ) is 0.888, which shows that there is significantly positive correlation between the variables at 95% level of significant. A high degree of positive correlation indicates that increment in net working capital leads increment in NP in BNTL.

**b. Relation between working capital and Sales**

The correlation coefficient (r) between working capital and sales is 0.968 and coefficient of determinants( $r^2$ ) is 0.937, which shows that there is significantly positive correlation between the variables at 95% level of significant. A high degree of positive correlation indicates that increment in net working capital leads increment in sales in BNTL.

**c. Relationship between working capital and current assets**

Correlation Coefficient (r) between working capital and Current Assets is 0.982 and coefficient of determinants( $r^2$ ) is 0.916, which shows that there is significantly positive correlation between working capital and Current Assets at 95% level of significant. Which indicate that there is 91.6% of changes in working capital is explained by current assets.

**d. Relationship between working capital and gross profit**

Correlation Coefficient (r) between working capital and gross profit is 0.972 and coefficient of determinants( $r^2$ ) is 0.667, which shows that there is significantly positive correlation between working capital and Current Assets at 95% level of significant. Which indicate that there are 66.7% of changes in working capital is explained by current assets.

**e. Relationship between working capital and COGS**

The correlation coefficient (r) between working capital and COGS is 0.957 and coefficient of determinants( $r^2$ ) is 0.916. This shows that there is very high degree of positive correlation between working capital and COGS of BNTL. A highly positive correlation indicates that increment in working capital is highly associated with increases in cost of goods sold.

**f. Relationship between working capital and Receivable**

The correlation coefficient (r) between working capital and sales is 0.823 and, coefficient of determinants( $r^2$ ) is 0.677, which shows that there is significantly positive correlation between the variables at 95% level of significant. A of positive correlation indicates that increase in net working capital leads increase in sales of BNTL and vice versa.

**4.7.2 Regression Analysis of working capital with other independent variables**

To determine the magnitude of the effect of the independent variables to the other dependent variable, simple regression analysis is made and the magnitude is defined after determining the regression equations. In other words regression analysis is a kind of average irreversible functional relationship is established between the two

variables. The cause and effect relationship is clearly indicated through regression analysis than the correlation analysis. Regression analysis is mathematical measure of average relationship between two or more variables in terms of original unit of data. The equation of regression line where the dependent variable Y is determined by the independent variable x is given by:

$$Y = a + b x \dots\dots\dots ( I )$$

Where,

a = Intercept

b = slope of regression line ( i.e. it measures the changes in the value of y as a result of per unit change in a value of x or regression coefficient of Y on x)

The regression analysis of working capital with other variables can be explained with the help of Table 4.17 below.

**Table 4.17**

**Regression analysis of Working capital with other variables**

<b>Variables(x)</b>	<b>Constant Intercept(a)</b>	<b>Variable Intercept(b)</b>	<b>Standard error of estimates</b>	<b>Coefficient of determinants(r<sup>2</sup>)</b>
Sales	9.630	0.281	18.,208	0.937
C A	25.167	0.388	13.832	0.916
COGS	-32.523	0.687	20.980	0.945
Receivables	100.044	2.682	41.130	0.963

*Source: ANNEX-II*

The regression equation of WC on Sales is:

$$WC = 9.630 + 0.281 \text{ Sales}$$

The given above equation of regression drawn of working capital on sales has the intercept value (a)of Rs. 9.630 and slope coefficient (b) value is Re.0.281. The slop

coefficient value of regression indicates that the working capital is determined by the level of sales. The one rupee change on sales brings Re. 0.687 changes in working capital. The coefficient is significant at 95% level of confidence and the  $r^2$  value shows that the model is 0.937 explained by the given equation.

The regression equation of WC on CA is:

$$WC = 25.167 + 0.388 CA$$

The given above equation of regression drawn of working capital on current assets has the intercept value (a) of Rs. 25.167 and slope coefficient (b) value is Re.0.388. The slope coefficient value of regression indicates that the working capital is determined by the level of current assets. The one rupee change on current assets brings Re. 0.388 changes in working capital. The coefficient is significant at 95% level of confidence and the  $r^2$  value shows that the model is 0.916 explained by the given equation.

The regression equation of WC on COGS is:

$$WC = -32.523 + 0.687 COGS$$

The given above equation of regression drawn of working capital on cost of goods sold has the intercept value (a) of Rs. -32.523 and slope coefficient (b) value is Re.0.687. The slope coefficient value of regression indicates that the working capital is determined by the level of cost of goods sold. The one rupee change on cost of goods sold brings Re. 0.687 changes in working capital. The coefficient is significant at 95% level of confidence and the  $r^2$  value shows that the model is 0.945 explained by the given equation.

The regression equation of WC on Receivables is:

$$WC = 100.044 + 2.682 \text{ Receivables}$$

The given above equation of regression drawn of working capital on receivables has the intercept value (a) of Rs. 100.044 and slope coefficient (b) value is Re.2.682. The slope coefficient value of regression indicates that the working capital is determined by

the level of receivables. The one rupee change on receivables brings Rs. 2.682 changes in working capital. The coefficient is significant at 95% level of confidence and the  $r^2$  value shows that the model is 0.963 explained by the given equation.

#### **4.8 Major Findings**

The major findings of this study are;

1. The average inventory is Rs. 91 million which is 21.51% of total current assets. The average debtor is Rs. 37.20 million which is 8.01% of total current assets. The average cash and bank balance is Rs. 31.20 million which is 7.19% of total current assets and last the average prepaid, advance, loan & deposit is Rs. 290.80 million which is 63.29% of total current assets.
2. The prepaid, advance, loan and deposits hold the highest portion i.e.63.29% and sundry debtors hold lowest portion i.e. 8.01% of total CA.
3. The liquidity position of the company is analyzed with the size of working capital and current ratio. The average of working capital for the study period is Rs. 199.80 million with Rs. 62.64 million SD and 0.31 CV.
4. The average of Net Working Capital Turnover Ratio for the study period is 29.71, with the SD of 2.98 and CV of 0.10.
5. The average sales volume of the company for the study period is Rs. 676 million, where SD is Rs. 215.49 million and CV is 0.32.
6. The average CA of the company for the study period is Rs. 450.20 million, where SD and CV is Rs. 158.50 million and 0.35 respectively. The CA is lower than sales in every years. The average portion of CA on sales is 66.05%.
7. The average of RCAS for the study period is 66.05 times with 3.33 SD and 0.05 CV. The average COGS for the study period is Rs. 338.40 million, where SD is Rs. 87.32 million and CV is 0.26.
8. The averages of ICP, RCP and PDP for the study period are 51days, 19days and 241.6 days respectively, which mean on an average it takes; 51 day to convert inventory, 19 days to collect receivable.
9. The average of cash conversion cycle (CCC) for the study period is minus 121 days, where SD is 48 days and CV is minus 0.39. The cash conversion period is

occurred in minus (-) in every year. The cash conversion period is decreasing every year.

10. The profitability is the measure of efficiency. The profitability position has been analyzed from various angles. The average gross profit for the study period is Rs. 337.60 million, where SD and CV is Rs. 128.57 million and 0.38. There is no any gross loss on the study period. The average of gross profit margin is 49.18%, where SD and CV is 3.08 and 0.06 respectively. The Gross Profit Margin is almost same portion in every year.
11. The average of net profit for the study period is Rs. 79.60 million where Rs. 60.58 million SD and 0.76 CV. There is no any net loss. The average NPM is 10.39%, where SD is 5.96 and CV is 0.57.
12. The average of Operating Expenses for the study period is 557.60 million, with the SD & CV of 144.51million & 0.26. The average OR for the study period is 83.86% with SD & CV of 6.04 million and 0.07 respectively.
13. The correlation coefficient between net working capital and NP is significantly positive. A high degree of positive correlation indicates that increment in net working capital leads increment in NP in BNTL.
14. The correlation coefficient between working capital and sales shows that there is significantly positive correlation between the variables. A high degree of positive correlation indicates that increment in net working capital leads increment in sales in BNTL.
15. Correlation Coefficient between working capital and Current Assets is shows that there is significantly positive correlation between working capital and Current Assets.
16. Correlation Coefficient between working capital and gross profit is shows that there is significantly positive correlation between working capital and Current Assets.
17. The correlation coefficient between working capital and COGS shows that there is very high degree of positive correlation between working capital and COGS of BNTL. A highly positive correlation indicates that increment in working capital is highly associated with increases in cost of goods sold.
18. The correlation coefficient between working capital and sales shows that there is significantly positive correlation between the variables. Positive correlation

indicates that increase in net working capital leads increase in sales of BNTL and vice versa.

19. The finding obtained from the study is that the relationship between sales and working capital is positive and One Rupees change in sales is associated with Rs. 0.281 change in working capital.
20. The finding obtained from the study is that the relationship between cost of goods sold and working capital is positive and One Rupees change in COGS is associated with Rs. 0.687 change in working capital.
21. The finding obtained from the study is that the relationship between Receivable and working capital is positive and One Rupees change in Receivable is associated with Rs. 2.682 change in working capital.
22. The finding obtained from the study is that the relationship between Current Assets and working capital is positive and One Rupees change in Current Assets is associated with Rs. 0.388 change in working capital.

## CHAPTER V

### SUMMARY, CONCLUSION AND RECOMMENDATION

#### 5.1 Summary

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 take benefit from its own knowledge and competence by applying these techniques in its own organization for the betterment and effectiveness. Working capital management is a very sensitive area of financial management. This study mainly aims to examine the working capital position in BNTL. The specific objectives where to analyze and assess the size, growth, liquidity, profitability and efficiency of working capital in BNTL. To fulfill the objectives described as in chapter one an appropriate research methodology has developed which includes the ratio analysis as financial tools, standard deviation, mean and coefficient of variation as statistical tools. The major ratio analysis consists the composition of working capital position, turnover position, liquidity position, cash conversion cycle. Under these main ratios various analyses are made in chapter four. In order to test the relationship between various variables of working capital Karl Pearson's correlation coefficient ( $r$ ) and regression analysis is calculated and results are analyzed.

The necessary data are derived from the balance sheet and profit and loss a/c of BNTL. The other necessary information has taken from the annual report of the study period and direct concern as well. With the help of the methodology describe in chapter three, these data are tabulated and analyzed in chapter four. After an analysis process the researcher has reached to conclude that the overall financial management of BNTL is quite satisfactory during the five years study period. There is efficient amount of current assets to meet the current obligations of the corporation which obviously is a sign of good liquidation position, and there are no problems of technical insolvency.

Statistically it's shown that the correlation of investment in working capital between gross profit and net profit of the company significantly associates one another.

Likewise regression coefficients explain largely dependency of company's sales, profit and net worth on proper management of working capital.

## **5.2 Conclusion**

The study shows that there is problem in some aspects of working capital management. The level of working capital in Bottlers Nepal seems moderately managed. There are so many factors that working capital policies are determined, among them the study observed the effect of sales, COGS, C.A and other financial variables. The working capital is proportionately affected by the level of sales. Other variables like Cost of goods sold and current assets has also proportionately related with working capital. Therefore it can be concluded that the company has been managing working capital in-relation with change in other variables.

## **5.3 Recommendations**

Based on the finding of the study following recommendation are forwarded for the improvement of the working capital management of Bottlers Nepal (Terai) Limited.

### **1. Optimize Liquidity Position**

BNTL is a product oriented manufacturing company, does need optimum liquidity position. Thus the corporation has been suggested to stabilize its current ratio near 2:1. Large amount of fund tied up in current assets may bypass the opportunity cost so it is better for BNTL to invest such excess amount in fixed assets to increase its capacity. The overall average current ratio is 1.89, so it is recommended to maintained it and don't increase it to over 2 to grab the opportunities.

### **2. Efficient Management of Current Assets**

The profitability of firm depends up on the effective management of current assets. The components of current assets; sundry debtors, inventory and cash portion is satisfactory whether portion of prepaid, advance, loan and deposits is more than other current assets. It results the mismanagement of current assets which tends to increase opportunity cost. So, it is recommended to decrease the portion of prepaid, advance,

loan and deposits. The investment on unproductive sector of current assets should be discouraged for increasing productivity of the firm.

### **3. Sound Collection Policy**

The trends of account receivable decreasing year to year, hence the RCP is also decreasing. It shows the collection policy of the firm is in better position. But it is not in satisfactory position. So, it is recommended to decrease RCP as much as short period of time.

### **4. Appropriate Level of Working Capital**

The researcher found that the company use relaxed working capital investment policy. The net working capital fluctuating continuously. For effective and appropriate management of working capital it is recommended to continue the existing policy of working capital.

### **5. Minimizing the Operating Cost**

The management of the company should give due attention to the minimization of administrative and operating expenses in the company. The unskilled manpower, overstaffing, unnecessary expenses and misuse of facilities or heavy expenses on overhead in the factory may be causes for the higher operating cost. To overcome these problems the company should adopt various actions like there should be systematic purchasing system, appropriate number of skilled manpower and control the unnecessary overhead cost.

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- [www.ssrn.com](http://www.ssrn.com)
- [www.research.co](http://www.research.co)

**ANNEX-I**

**Correlations**

					<b>S A L E S</b>			<b>R E C E I V A B</b>
W C	Pearson Correlati on				. 9 6 8 ( * * )			. 8 2 3
	Sig. (2- tailed)				. 0 0 7			. 0 8 7
	N				5			5
P R O F I T	Pearson Correlati on				. 9 8 5 ( * * )			. 9 1 9 (* )

		Sig. (2-tailed)			.0027			.027
		N			5			5
S A L E S		Pearson Correlation			.134			.134 (*)
		Sig. (2-tailed)			.020			.020
		N			5			5
C A		Pearson Correlation			.997			.997 (*)
		Sig. (2-tailed)			.0035			.0035
		N			5			5
G P		Pearson Correlation			.09			.09

	on			9 9 ( * * )				3 2 (* )
	Sig. (2- tailed)			. 0 0 0				. 0 2 1
	N			5				5
C O G S	Pearson Correlati on			. 9 9 7 ( * * )				. 9 3 4 (* )
	Sig. (2- tailed)			. 0 0 0				. 0 2 0
	N			5				5
R E C E I V A B	Pearson Correlati on			. 9 3 4 ( * )				1
	Sig. (2-			.				.

	tailed)			0			
				2			
				0			
	N			5			5

\* Correlation is significant at the 0.05 level (2-tailed).

\*\* Correlation is significant at the 0.01 level (2-tailed).

## ANNEX-II

### Regression

#### Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	SALES(a)	.	Enter

a All requested variables entered.

b Dependent Variable: WC

#### Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.968(a)	.937	.916	18.208

a Predictors: (Constant), SALES

b Dependent Variable: WC

#### ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1470.165	1	1470.165	4.438	.007 (a)
	Residual	994.635	3	331.545		
	Total	1564.800	4			

a Predictors: (Constant), SALES

b Dependent Variable: WC

### Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error			
1	(Constant)	9.630	29.698		.324	.767
	SALES	.281	.042	.968	6.659	.007

a. Dependent Variable: WC

### Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	14	27	19	60.622	5

	3	8	9		
	.26	.01	.80		
Residual	-.19	.20	.00	15.769	5
	.33	.33			
Std. Predicted Value	-.93	.29	.00	1.000	5
	.33	.30			
Std. Residual	-.11	.11	.00	.866	5
	.06	.50	.00		
	.11	.00			

a Dependent Variable: WC

#### Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	COGS(a)	.	Enter

a All requested variables entered.

b Dependent Variable: WC

#### Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.957(a)	.916	.888	20.980

a Predictors: (Constant), COGS

b Dependent Variable: WC

**ANOVA(b)**

Model	Sum of Squares	df	Mean Square	F	Sig.
1	1437.461	1	1437.461	32.655	.011(a)
Residual	132.539	3	44.179		

	Total	915694	4		
		.800			

a Predictors: (Constant), COGS

b Dependent Variable: WC

**Coefficients(a)**

	Model	Unstandardized Coefficients		Standard Error	Beta	t	Sig.
		B					
1	(Constant)						
	COGS	-.32523		.41724		-.779	.493

	.687	.120	.957	5.714	.011
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a Dependent Variable: WC

**Residuals Statistics(a)**

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	139.80	275.4	199.80	59.946	5
Residual	-2.697	2.102	.000	18.170	5
Std. Predicted Value	-1.001	1.255	.000	1.000	5
Std. Residual	-1.286	1.002	.000	.866	5

a Dependent Variable: WC

**Variables Entered/Removed(b)**

Model	Variables Entered	Variables Removed	Method
1	RECEIVAB(a)	.	Enter

a All requested variables entered.

b Dependent Variable: WC

### Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.823(a)	.677	.569	41.130

a Predictors: (Constant), RECEIVAB

b Dependent Variable: WC

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10619.708	1	10619.708	6.278	.087 (a)
	Residual	5075.092	3	1691.697		
	Total	15694.800	4			

a Predictors: (Constant), RECEIVAB

b Dependent Variable: WC

**Coefficients(a)**

	Model	Unstandardized Coefficients		Standard Error	Standardized Coefficients	t	Sig.
		B					
1	(Constant)	1000.44		43.88		22.81	.107
	PERIODICITY	2.682		1.070	.823	2.506	.087

a. Dependent Variable: WC

**Residuals Statistics(a)**

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.29	2.63	1.99	51.526	5
Residual	-.44	.37	.00	35.620	5
Std. Predicted Value	.36	.23	.00	1.000	5
Std. Residual	-.10	.11	.00	.866	5

a Dependent Variable: WC

**Variables Entered/Removed(b)**

Mod	Variables	Variables	Method
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el	Entered	Removed	
1	GP(a)	.	Enter

a All requested variables entered.

b Dependent Variable: WC

**Coefficients(a)**

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
		B	Std. Error			
1	(Constant)	39909	23516		1.697	.188
	GP	.474	.066	.972	7.183	.006

a Dependent Variable: WC

**Residuals Statistics(a)**

	M i n i m u m	M a x i m u m	M e a n	Std. Devi ation	N
Predicted Value	1 4 6 .0 0	2 7 9 .5 6	1 9 9 .8 0	60.8 94	5
Residual	- 1 4 .1 5	2 0 .5 3 1	. 0 0	14.6 84	5
Std. Predicted Value	- 8 8 4	. 3 1 0 1	. 0 0 0	1.00 0	5
Std. Residual	- 8 3 5	. 2 1 1	. 0 0 0	.866	5

a Dependent Variable: WC

**Variables Entered/Removed(b)**

Model	Variables Entered	Variables Removed	Method
1	CA(a)	.	Enter

a All requested variables entered.

b Dependent Variable: WC

#### Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.982(a)	.963	.951	13.832

a Predictors: (Constant), CA

b Dependent Variable: WC

#### ANOVA(b)

Model	Sum of Squares	df	Mean Square	F	Sig.
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		u a r e s				
1	R e g r e s s i o n R e s i d u a l T o t a l	1 5 1 2 0. 8 2 4	1	1512 0.82 4	7 9. 0 3 2	.0 0 3( a)
		5 7 3. 9 7 6	3	191. 325		
		1 5 6 9 4. 8 0 0	4			

a Predictors: (Constant), CA

b Dependent Variable: WC

### Coefficients(a)

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
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		B	Std. Error	Beta		
1	(Constant)	251.67	20.595			.309
	CA	.388	.044	.982	.889	.003

a. Dependent Variable: WC

### Residuals Statistics(a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	136.88	278.5	199.0	61.483	5
Residual	-	1	.	11.9	5

	1	4	0	79	
	6	.2	0		
	.8	1			
	8				
Std. Predicted Value	-1	1	.	1.00	5
	0	.2	0	0	
	2	8	0		
	3	6			
Std. Residual	-1	1	.		
	.2	.0	0	.866	5
	2	2	0		
	0	8	0		

a Dependent Variable: WC

### Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	RECEIVAB (a)	.	Enter

a All requested variables entered.

b Dependent Variable: WC

### Model Summary(b)

Model	R	R Squa	Adjusted R	Std. Error of
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Model		Sum of Squares	df	Mean Square	Sig.
1	.823(a)	.677	1	.677	.41130

a Predictors: (Constant), RECEIVAB

b Dependent Variable: WC

**ANOVA(b)**

Model	Sum of Squares	df	Mean Square	F	Sig.
1	10619.708	1	10619.708	6.278	.087(a)
2	5075.092	3	1691.697		

Total	15694	4			
	.8000				

a Predictors: (Constant), RECEIVAB

b Dependent Variable: WC

**Coefficients(a)**

	Model	Unstandardized Coefficients		Standard Error	Standardized Coefficients	t	Sig.
		B					
	1	1000.044		438.8		2.281	.107
		2		1	.82	2	.

BE BE VE BE	. 6 8 2	. 0 7 0	3	. 5 0 6	0 8 7
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a Dependent Variable: WC

**Residuals Statistics(a)**

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	129.5	263.6	199.8	51.526	5
Residual	-4.13	37.6	.00	35.620	5
Std. Predicted Value	-1.364	1.239	.000	1.000	5

Std. Residual	-	.	.		
	1	9	0	.86	5
	0	1	0	6	
	0	1	0		
	0				

a Dependent Variable: WC

### Notes

### Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	PROFIT(a)	.	Enter

a All requested variables entered.

b Dependent Variable: WC

### Coefficients(a)

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			

				o r			
1	( C o n s t a n t ) P R O F I T	1 2 2 . 0 0 4	1 9 . 3 1 1			6 . 3 1 8	. 0 0 8
		. 9 8 5	. 2 0 2		.942	4 . 8 6 8	. 0 1 7

a Dependent Variable: WC

### Residuals Statistics(a)

	M i n i m u m	M a x i m u m	M e a n	Std. Dev i a t i o n	N
Predicted Value	1 3 5 . 7	2 6 6 . 7	1 9 9 . 8	59.0 16	5
Residual	9 - 3 4 . 8 0	6 2 0 . 3 8	0 . 0 0	20.9 97	5
Std.	-	1	.	1.00	5

Predicted Value	1	.	0	0	
	.	1	0		
	0	3	0		
	8	5			
	5				
Std. Residual	-	.	.		
	1	8	0		
	.	4	0	.866	5
	4	4	0		
	3	0	0		
	5				

a Dependent Variable: WC